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P R O C E E D I N G S

OF THE

SELECT COMMITTEE APPOINTED BY THE
LEGISLATURE OF THE PROVINCE OF ONTARIO,
TO ENQUIRE INTO AND REPORT UPON MATTER
IN CONNECTION WITH TOLL ROADS IN THE
PROVINCE.

Mr. J. P. Robarts, Q.C., Chairman,
Presiding.

Mr. D. J. Collins, Secretary.

VOLUME II

Monday, October 17th, 1955.

Albany, New York (U.S.A.)

R. C. Sturgeon,
Official Reporter,
Parliament Buildings,
Toronto, Ontario.

S E C O N D D A Y

Albany, New York,
Monday, Oct. 17, 1955,
10:30 a.m.

The further proceedings of this Committee reconvened pursuant to adjournment.

PRESENT

Mr. J.P. Robarts, Q.C. , Chairman,

Presiding.

Messrs. Auld,

Yaremko, Q.C.

Sandercock

Root

Mackenzie

Jolley

MacDonald

Manley

Mr T.J. Collins, Secretary

- 1955 -

S. E. G. O. H. D. D. A. Y.

Albany, New York,
Monday, Oct. 17, 1955
10:30 a.m.

The further proceedings of this Committee were

ended pursuant to adjournment

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THE

PROCEEDINGS

REPORT

UNIT

YERGEN, C. G.

UNDERSTOOD

FOOT

WATERMAN

WILLIS

WATERMAN

WILLIS

Mr. T. J. Collins, Secretary

APPEARANCES

Mr. W.J. Fulton, Director of Planning, Department
of Highways, Province of Ontario.

Mr. W.Q. Macnee, Traffic Engineer, Department of
Highways, Ontario.

Mr. B.D. Tallamy, Chairman)	
)	
Mr. H.A. Evans, Jr., General Manager)	New York
)	Thruway
Mr. Joseph Ronan, Assistant General Manager)	Commission
)	
Mr. C H. Lang, Chief Engineer)	

Mr D.J. Langan, Director of Thruway Finance

Mr. Monaghan, Head of Department of Public
Relations and Business Forum.

MR. RONAN: Mr. Tallamy was supposed to meet with
you this morning, but he and the Chief Engineer received an
urgent call from the City Comptroller to meet with him this
morning, and, you will all agree, the question of money is
rather important He wanted to hear this discussion, and
he will be here as quickly as possible

Mr. Evans, the General Manager, has been engaged
for a week trying to keep the water off the thruway, and we
made him go to bed for a little while, because he has been
on duty continuously for 36 hours, and we felt he was in no
condition to talk to you this morning, but he will probably
be back in an hour or so.

If I can be of any assistance, and if you can give

me any indication of what you would like to hear or see, I will arrange to have the department heads, or some of their representatives, brought in to answer any questions you may care to ask.

THE CHAIRMAN: Our purpose in being here is that we have no toll roads in the Province of Ontario, and we were appointed by the Legislative Assembly of the Province to investigate the whole matter of toll roads in relation to our Province.

Our purpose in coming here is because we wondered if we could get some background information on your operation of your thruway, and we are very much interested in the history of it. If you could give us some information about some of the background, it would be very helpful.

Then we would also like to know something about the construction and operation

MR. RONAN: Well, the history of the road itself - the history of the idea - goes back quite a ways. It is no one man's original idea, or if it was, I am afraid that is lost now in antiquity.

A road which would bisect the State north and south and east and west was thought of, perhaps as long ago as 30 years, and, thereafter a number of attempts were made to translate the thinking into something really concrete. It was still during World War II that something really got started. There was talk then of a road running roughly along this present route as a freeway, but very quickly it

became evident it could not be constructed out of ordinary revenue, and it became more evident than ever, immediately after World War II, when the inflationary period hit all of us. So perhaps more than any other individual in the State today who should be given credit for the idea of the thruway as it stands, I think, belongs to Mr. Tullamy, because it was he who came up with the idea of financing, which made the road feasible.

He approached Governor Dewey and told him how he saw the problem, and with the Governor's approval, the whole project was launched.

Then, of course, as an engineer - and at that time Mr. Tullamy was also wearing the hat of the Superintendent of Public Works for the State, as well as being chairman of the new Thruway Authority, which was created in 1950 - he immediately set to work, and with the help of his engineers, both civil engineers and the engineers of the Department of Public Works, the route of the thruway as it is on the map today was laid out, and the project was launched.

Construction actually started, with the exception of a couple of small - very small - isolated sections - in 1951, and the whole job, as you see it today, was built in the intervening four years.

It was opened - a really sizeable section - for toll traffic in June of last year, and before the end of last year we were carrying toll traffic from Buffalo on down to Harriman, which is some 40 miles from the New York

City line.

In the spring of this year we opened the mileage between Harriman and Suffern, another 15 miles, I believe it is.

From that spot we built the rest of the road from Suffern to the Hudson River and continued our building of the Hudson River bridge. The bridge now is substantially complete, so we can probably open it in approximately a month.

The paving of the thruway from Suffern down to the bridge on the west side, and then easterly from Nyack to the New York City line, is practically completed, and we expect to run traffic from Buffalo to the New York City line about December 1st.

I think that very briefly gives an outline of the situation as it exists today. I have endeavoured to stick to facts.

THE CHAIRMAN: Could you give us a little of the legislative background, as to how your authority is set up, and we are also interested in your overall financing scheme.

MR. RONAN: Rather than give you that myself, I would much rather you ask the Counsel and Director of finance, both of whom I believe are here, and I can ask them to come in and they can give you an answer to those questions if you would like to see them.

THE CHAIRMAN: Yes, I think we would.

MR. RONAN: Mr. Langan will answer your questions.

as he has all the figures before him

THE CHAIRMAN: We have a Reporter here for the purpose of recording for posterity any information we can get, but if during the course of the conversation there is anything you would rather not have recorded, simply say so, and it will not be reported

MR. LANGAN: Thank you, Mr. Chairman. I appreciate your mentioning it.

MR. YAREMKO, Q.C.: Was this originally planned as a freeway when it was first thought of?

MR. RONAN: It was given some consideration as a freeway. I would say the idea of being able to build it as a freeway disappeared rather early, shortly after World War II, when the costs of construction soared, and it became quickly evident that special planning and financing would have to be devised

MR. LANGAN: Yes, it was considered possible that an annual appropriation be used for this, with the idea that it might cover the cost of the road

THE CHAIRMAN: In setting up your financing, do you have traffic counts?

MR. LANGAN: Yes. We had a firm of consulting engineers, Messrs. Madigan and Hyland. They made a survey and presented a report on the feasibility of the road, which included all sorts of traffic counts. We have copies of them, I think

MR. RONAN: We have a great deal of material we

would be glad to make available to you

MR. AULD: Would that include traffic surveys around the area, including industrial areas?

MR. RONAN: A survey would be better than a traffic count. It was really an economic survey to determine the best route from the standpoint of getting customers, and from an engineering standpoint, and everything we could think of was to determine the proper route which would get us the best money.

MR. ROOT: Yes, because I see it does not go in a straight line.

MR. RONAN: It had to be of a service to the people of the State, and some 80% of the population lives in the Mohawk Valley and the Hudson River Valley.

MR. LANGAN: I think it was figured that 80% of the population was within 25 miles of some part of the thruway.

MR. YAREMKO, Q.C.: This survey became the basis upon which the finance people decided whether it was advisable to purchase the bonds?

MR. LANGAN: That is right.

MR. YAREMKO, Q.C.: The bonds had to be purchased before the thruway was built?

MR. LANGAN: No bonds were sold until 1953. Some of this work had been started in the State of New York, and there was an arrangement whereby the State of New York advanced up to \$80 million to us, and a certain

amount of work was done before the bonds were sold.

However, the basis of the bonds was the economic survey by Madigan & Hyland and included the report of the engineers.

I can give you a copy of the transcript and the resolution of the Authority in connection with the financing

There were two types of bonds we sold, the fully-guaranteed State bonds - there was \$500 million of those authorized by a constitutional amendment, and then we have the revenue bonds which carry a pledge on revenue, but do not carry the guarantee of the State of New York

MR. YAREMKO, Q.C.: Which came first?

MR. LANGAN: The guaranteed bonds. We first sold the first \$250 million of guaranteed bonds in two sales of \$125 million each, and then we went on to the revenue bonds, and recently - only last Tuesday,- we sold another \$50 million of State-guaranteed bonds, and we have sold \$350 million of revenue bonds, and \$300 million more of guaranteed bonds, and we have outstanding \$50 million of guaranteed State notes for ten months, so, altogether, we have about \$700 million

MR. AULD: Does your constitution limit the amount of the State-guaranteed bonds?

MR. LANGAN: Yes. By this amendment \$500 million It was originally thought that would be sufficient to construct the road

MR. YAREMKO, Q.C.: Do the guaranteed bonds make the revenue bonds more saleable?

MR. LANGAN: They subordinate the guaranteed bonds.

MR. YAREMKO, Q.C. : So you have a revenue producing item which you say gave you \$700 million or \$750 million, which supports about \$350 million of the revenue bonds?

MR. LANGAN: Yes The first lien on the revenue is on the revenue bonds

MR. CHAIRMAN: What is your period of amortization?

MR. LANGAN: The bonds run - some of them - to 1994.

THE CHAIRMAN: Will the State-guaranteed bonds be amortized out of revenue, even though the revenue is not pledged for that purpose?

MR. LANGAN: Yes, they will

THE CHAIRMAN: You anticipate this new road will in due course pay for itself entirely?

MR. LANGAN: All of the financing has been done on the basis of the estimated revenue being sufficient to fully amortize all of the bonds, the revenue bonds and the State-guaranteed bonds.

The guarantee of the State was initially sought for economy, to bring in the low interest rate, and the full credit of the State was behind the bonds. That was the

initial purpose of the State guarantee.

MR. YAREMKO, Q.C.: Was there a substantial saving?

MR. LANGAN: Yes. For instance on last Tuesday we took a bid on \$50 million of State-guaranteed bonds at an interest rate of 2.51464 which was for a long-term maturity. The maturity of those bonds runs from 1984 to 1994. That is much less than the revenue bonds cost. I would say the revenue bonds, with the same maturity, perhaps would run maybe 3-1/3 or 3-1/2%

MR. AULD: Have you found any rule to estimate what your revenue has been, roughly?

MR. LANG: : Actually our road is not built yet. We are only open down to Suffern. The bridge across the Hudson River is not finished, nor is the road down to New York City open.

All of the Madigan & Hyland estimates were based on the basis -- well, it is hard to compute that

MR. YAREMKO, Q.C.: Has anyone ever translated the cost of this thruway, as you have it, as to what the cost would have been if you had tried to build it out of the gasoline-tax revenue?

Has anybody figured what it would have cost in increased gas taxes, if it had been built as a freeway?

MR. LANG : No, I do not think anybody has ever done that.

MR. JOLLEY: You mean what the increase in

taxes would have to be?

MR. RONAN: The first increase in taxes produced about another \$25 million annually.

MR. LANG: About that.

MR. RONAN: So it would be 40 times that.

MR. LANG: But no one has made any such comparison.

MR. AULD: That is, if you were going to pay it off in one year.

MR. RONAN: That is right.

MR. AULD: Over a 40-year period, it would be less than that?

MR. RONAN: No. No study has been made of that. That is the best answer to give you.

MR. AULD: Does New York State use all of the revenue from automobile licenses, and the gasoline tax, for roads.

MR. RONAN: No, it is not dedicated revenue.

---The following discussion re revenues was not reported, by direction of the Chairman.

MR. YAREMKO, Q.C.: Is not an argument going on in one of the States as to whether they should have a constitutional amendment.

MR. LANG: It is going on in New York State at the present time.

MR. RONAN: It is proposed to put it up to the

people at the next election, and it is proposed that \$750 million bond issue be approved by the people.

The opponents claim that from the time of the issue, \$220 million interest would be necessary. So they have voted "no", and say that we should "pay as you go". Others who see the dire need of roads at the present time, are urging the issuance of the bonds.

If the public approve, the program can be carried out in a 10-year period, and the interest cost would have to be part of the burden of getting the work done now.

We claim the expenditure is justified, because of the business conditions, and right now we think it would cost less than it may later on.

MR. AULD: One other question about financing the State roads: you have good roads, the State roads, and the U.S. roads.

MR. RONAN: Yes.

MR. AULD: Does the Federal Government pay a portion of all these, all of the State roads and all of the U.S. roads - what they cost?

MR. LANG: The Federal aid program is generally applicable to all primary roads, which would be the U.S. secondary roads and the farm-to-market roads.

The allotment of the money by the Federal Government is generally on application by the Superintendent of Public Works for specific projects he plans to advance.

MR. AULD: Let us take U.S. No. 1, which goes

across the Country. Who paid to build it, and who pays for the cost of maintenance in the various States? Does the Federal Government pay all that?

MR. LANG: The Federal Government itself does not pay any of the maintenance costs. The State maintains the roads 100%. The Federal Government's contribution is for the original construction costs, and it is generally about 50% of the cost, which they pay.

MR. AULD: Then, would it be fair to say that the Federal Government in the United States is what we would call "subsidizing all types of roads"?

MR. LANG: Yes, I would think so. Anything which could be interpreted as a "farm-to-market" road, or a "secondary" road, or as a "primary" road, which would be like the one you mentioned.

MR. MONAGHAN: I do not believe the Federal Government proceeds in any way with town highways.

MR. RONAN: A county highway would be the lowest level.

MR. LANG: That would be the "farm-to-market" road?

MR. RONAN: Yes, because they are all in the county system.

MR. LANG: Rural post roads?

MR. RONAN: I think it would be fair comment to say that every official below the Federal Government does his best to get Federal-aid money for road construction.

MR. COLLINS (Secretary): There is a Federal gasoline tax?

MR. RONAN: Yes.

MR. COLLINS (Secretary): How much is that?

MR. RONAN: Four cents a gallon.

MR. COLLINS (Secretary): You propose to put it up?

MR. RONAN: Yes, from two to four cents.

THE CHAIRMAN: That would not affect your portion of the thruway?

MR. LANG: No. The whole question we are discussing now is whether the Federal Government pays for the roads and administers them. The Federal Department of Public Works has nothing to do with them.

MR. YAREMKO, Q.C.: I will still pursue it. Will the constitutional amendment provide that the money will be ear-marked for roads and nothing else?

MR. LANG: The proceeds of that bond issue, that is right, but it will not say that taxes will be dedicated for roads. The gasoline tax will not be ear-marked for roads entirely

MR. MONAGHAN: It is my understanding the gas-tax revenue will be ear-marked by statute, but not by constitutional amendment.

MR. YAREMKO, Q.C.: Then I suppose there is the argument that if it was drawn by statute it could be changed by a subsequent legislature.

MR. MONAGHAN: It could be done by a subsequent legislature or Administration, but the contention of the forces in favour of the bonds is that you have to have some measure of faith in the people who are the elected representatives, and the occasion is not likely to arise where a governor or the legislature subsequently would divert this money to some other purpose.

THE CHAIRMAN: Have you any income tax exemptions on your bond issues?

MR. LANG: You are talking about the thruways?

THE CHAIRMAN: Yes, I am back to the thruways.

MR. LANG: No

THE CHAIRMAN: They are not tax free?

MR. LANG: Oh, as an investment they are tax free, both Federal and State.

THE CHAIRMAN: And that keeps your interest rate down?

MR. LANG: That is right, and makes it attractive to the investors from that point of view.

---Whereupon the Committee took a short recess and reconvened in the office of the Chairman, Mr. B.D. Tullamy, whereupon the following proceedings were had

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MR. B. D. TALLAMY

Chairman of the New York Thruway Commission, appearing before the Committee, but not being sworn, deposes and says:

BY MR. YAREMKO:

Q. Going to the beginning of this thruway; we know this was a great dream of yours. It must have been in your mind, and the minds of others for some period of time. Did it ever become a political issue?

A You ask if it ever became a political issue?

Q. My question was, did the people of the State of New York readily accept the idea of a toll road thruway?

A. Very readily. As far as the general public was concerned, there was never any problem at all.

I personally went to every newspaper editor in the State of New York, during the time we were considering the referendum to back the Authority's bonds, and I visited and chatted with the head editor of every daily newspaper in the State, and a number of weeklies, and I did not find one who was opposed to the idea at the end of the conference

This was not because of my selling ability; it was because when they learned the facts, and saw that the raising of the funds would be beneficial to the State, that they supported the program completely.

I think the test of the pudding is in the fact that the referendum passed by a 4 to 1 vote, and we won in every single political sub-division in the State. We did not lose one sub-division.

And the average in the State was better than 4 to 1, and that shows pretty good public support.

BY MR. MacDONALD:

Q. You were at that time the Superintendent of Public Works?

A. I was superintendent, yes.

Have you been discussing our finances?

BY MR. YAREMKO, Q.C.:

Q. We went into some aspects of it, yes.

A. The proposal was that we have the State guarantee \$500 million of thruway bonds, and the people voted on this sort of a proposal:

"Shall the State of New York guarantee the Thruway Authority Bonds to the extent of \$500 million? Yes or No?"

That was all there was to the proposal.

BY MR. AULD:

Q. Would it be fair to say that it was a question if a thruway was to be built within the foreseeable future, it was not a question of "shall we build it, as (a) a thruway and (b) a toll road"?

A. That was clearly defined, and it was very evident, if the State was to get an express highway system, it had to be a toll road. There was no alternative.

We had legislation enabling the planning of a thruway for a number of years, but it did not get very much further than the planning stage until about 1948, or so, when our department - I mean the Public Works Department at that time - awarded a few contracts, for,

perhaps, altogether about 50 or 60 miles of thruway scattered across the State in different locations. In these locations we received a great deal of public acceptance of the project. They began to see, for the first time, what a thruway system would really mean.

We put them parallel to the State highways, which were very congested, or otherwise unable to efficiently carry the traffic. There were a number of right-hand turns, and poor structures and things like that. They were very beneficial pieces, but a piece of an express highway system is of small value to the State or Province, as compared to the whole thing.

BY MR. ROOT:

Q. Were these original pieces built as freeways?

A. Yes.

Q. Was there any objection when you absorbed it and made a freeway into a toll road.

A. No, because they were always constructed as part of the thruway system, and they were called "thruways". They were not known as "freeways" or "State highways".

So when we passed legislation making the thruway system a toll system, it was obvious that these pieces of thruway which were already in existence had to become a toll section.

I do not recall any criticism from incorporating these into a thruway system.

We were very careful in designing the thruway

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system not to build it under an incorporated State highway, which is free, or over city streets which are also free. If we had, I think we would have been severely criticized, and probably rightly so.

BY MR. JOLLEY:

Q. There was never any question in the people's minds that this was to be part of a thruway, and that it was possible to finish it in a certain time. There was no question of a date, and you never led anyone to believe anything else, that by hooking it on to a highway or a city street or anything else, to give them the impression that it was anything else but a thruway?

A. First they thought it was a freeway, when it became evident that it was a piece-meal construction, and that it would take so many years, and so much money to build, say, a thousand miles of thruway, and it would be 40 or 50 years before they could complete the freeway on a pay-as-you-go basis.

BY MR. FULTON:

Q. Did you have to eliminate any sections as you made it a toll road?

A. Yes, we had to change the design of some. Their design of free interchanges was quite different from ours, so we changed over a couple of those.

We deliberately made a part of our toll system free in certain sections, so that we would not have to change the interchanges, and we accomplished that by

putting a barrier at the area of free interchanges, so as to collect the toll, and they served the toll sections.

Then they will have for 8 or 9 miles a free section, and then another barrier, and they would get on to the toll section again. That was not too bad an idea, even for the pre-conceived toll highway section.

For instance, in one case it was adjacent to the City of Buffalo, and when you approach the City, the road commences to have a large number of interchanges to properly diffuse the express traffic on to the local street system.

If you try to concentrate on two or three interchanges, you overlap on to the city streets which are trying to absorb the traffic.

So it is necessary to have a large number of interchanges, and you may have one every mile, and that is about the way we have it in Buffalo.

When you have them as frequently as that, the cost of toll collections mount very heavily and become a burden, that is, to try to collect the tolls on so many interchanges, so we made it free, so we can diffuse traffic anywhere we want to, and we do not have to bother with the collections.

We are doing the same thing with the approach to New York City, and we have every hope of succeeding, as we approach New York City or Westchester.

Then we go on to an express highway, which, to

a layman looks the same, but we use different money to build it.

It is a free section, and we diffuse traffic right and left, right down into the very heart of New York City.

You will find, when you get into that sort of thing, it is the right way of doing it.

On the new Erie thruway from New York, we will be doing the same thing.

BY MR. AULD:

Q. As I understand the interchanges on a thruway, the toll sections are about 14 miles apart?

A. Yes, but that is on the 562 mile length of thruway section. In some places we have them every mile, depending on the traffic requirements.

Q. Do you know off hand - aside from the cost of construction of the highways and normal maintenance - what the cost per year is for the toll facilities, the staffs which man them, buildings, and so on?

A. Yes. Rather than give you that "off the cuff", I would rather get that figure for you. Was Mr. Langan with you this morning?

BY THE CHAIRMAN:

Q. Yes, he was in the other room.

A. There are some great new devices which are coming in, and probably will be in effect in the next couple of years, such as the automatic toll collectors, and automatic

ticket dispensers and recording devices which will cut down the manpower a great deal, and which will make our system more efficient than the other toll roads.

There are tremendous strides being made in the toll-collection automatic equipment. For instance, the machinery we now have on the drafting board, in the experimental stages, will take the money, and check it with a treadle. As the car leaves a station, the operator takes a ticket and puts it into the machine, and it automatically records the type of vehicle, the rate of fare, the time, and whether it has a special license plate or not.

Then as the vehicle leaves the toll collector and runs across a treadle, which shows the number of axles on the vehicle, and that is registered on a tape alongside the ticket register, so we can compare by comparing these sheets with the toll collector's tickets representing what the treadle automatically pointed out.

When you have all these interchanges, they then go through a central office, and are run through another machine, but that takes manpower. The new equipment does what I am now saying, and transmits it by wire to a central office, and all the information which is now printed will be automatically compared and recorded in the central office.

Q. You have it right for any particular point?

A Yes, we can get any information we want.

BY MR. JOLLEY:

Q. Are we to conclude that in the future the operational costs will be cut down, or is it just to tab what you are doing?

A. Both. You get a closer tab, on, for instance, collisions on a bridge, or anything which might take place in the field, and you have a more immediate way of finding out certain situations. "More efficiency" means less manpower, and it is less costly, because it is evident you can detect some things sooner, and save money that way.

BY THE CHAIRMAN:

Q. It speeds up traffic, too?

A. Yes, it is a vast improvement. We have been very fortunate in our collections and our cross-checks.

BY MR. JOLLEY:

Q. There is not much difficulty in collecting the fares?

A. While we are on the subject, this is rather interesting.

Take a section, say from Buffalo to Syracuse, as an example. In the morning, two money trucks will start out making change. One starts from Buffalo, and one from Syracuse, and they go to the toll stations all the way through, and make change and collect a lot of bills. They call it "buying change".

They meet in the middle and go back and pick up the deposit boxes which are in the toll utility buildings, and the funds which have been collected during the previous

24 hours. These funds are in bags which are sealed up by each toll collector.

Each toll collector puts into these boxes his tickets which he has collected. He also puts in the money he has collected, plus a deposit slip for the bank, representing the money he has collected.

He seals that up with a seal which nobody can disturb without breaking it, and puts it in a depository, which is like a night depository in a bank.

The collectors take up these money bags, and they take one to Buffalo and one to Syracuse, and they go to their respective banks. The banks will check the deposit slips versus the money, and send a copy of the original deposit slip, plus any corrections, to the main office.

The tickets are sent to the main office directly from the toll-collection headquarters in Buffalo or Syracuse.

All the tickets for the day are run through the tabulating machines, and that shows us what our total receipts were, and takes care of the tickets which are punched, and it gives us the grand total for the day

Then we add up the bank deposit slips, and check one against the other. We have thousands of transactions, and we have been checking accurately within anywhere from 50¢ to \$5 00, one way or another.

Since we have been in operation - unless it has changed recently - the errors which will creep up in mak-

ing change and that sort of thing, has been on the plus side as far as we are concerned. We are several hundred dollars ahead on the errors. It is really amazing how you can check thousands and thousands and thousands of transactions so accurately, and without too much expense, either.

I did not thoroughly discuss the matter of building thruways or other roads. I think that is a very important thing.

We built a thruway down Central Avenue in the City of Yonkers for about 3-1/2 miles to connect with a major expressway which will carry our traffic directly into New York City.

This was a very wide city street; actually it was under the jurisdiction of the State, and our law gives us the right to take over any highway we want. In this instance we went right down the middle of the road, and in order to maintain free traffic over it, we built two service roads on either side. The service roads were kept up on the original ground level, and we put the freeway down between the two retaining walls, and we bridged it across the railway, just as if there was no freeway. The only difference is that you cannot "jaywalk", unless you jump down on to the freeway, and then climb the wall on the other side, so it was good, from that point of view.

The abutting property had access to what was formerly a secondary road, and that made it possible for

traffic which had normally used the road, to proceed to their destinations, and there have been enterprises and industries developed on the basis of the free road, and it enabled traffic to proceed without interruption. I believe that is important.

I do not think any express highway should take over and use an existing free road. I think it would be poor designing, poor planning, and poor economics.

BY THE CHAIRMAN:

Q. Do I understand in regard to these portions of the thruway which are free; are they paid for by your Department of Public Works?

A. No, they are paid for by us.

Q. Your authority has in some cases provided free roads?

A. Yes.

BY MR. MACKENZIE:

Q. Was the road into Suffern in the nature of being a freeway?

A. No. It is toll down to Tuckahoe, right from Suffern. You will see the Tuckahoe road just north of the north side; it is about 4 miles north. It is toll down to that point.

Q. And that will all be free?

A. Yes. And there is another free piece down here (indicating). Then, from Buffalo, we are free all the way from here (indicating), down to here (indicating).

BY MR. AULD:

Q. And as far as the toll part of the road is concerned; are there any expenses the City has in connection with that, such as policing?

A. No, no expenses at all. We have elected to use the State police as our policing agency. The people recognize them, and there are a lot of advantages.

There is a very close tie between the policing of the thruway and policing on the streets. That is good for the apprehension of criminals, and for other purposes too.

BY MR. ROOT:

Q. How many miles long is that road?

A. 562 miles, altogether.

Q. What did it cost per mile to build?

A. Oh, about \$1,320,000. per mile. I can give you the exact figures, so if you quote me nobody can say, "It was not \$20,000.; it was \$26,000.".

By the way, I was not quoting that as closely as I should. It was \$1,340,000. per mile. That is the right figure.

BY THE CHAIRMAN:

Q. Can you give us some idea of what you consider your traffic requirements to be on a highway, in order to make it economically feasible?

A. That is very difficult to say, but I would just give you a hint, because the characteristics of the other roads are so important.

For instance, if they are congested and narrow

and dangerous or hilly, or all of those factors, then, of course, traffic would use the toll roads and you can get more money for the use of that road.

Even though more traffic will use the other toll roads, and would, under ordinary circumstances, that total might be less than another total, because of the fact that you can collect the higher toll with less traffic which uses the road.

Then, in addition to that, you have the cost of building a road, which is a factor, if it costs you \$1 million per mile, instead of \$1,340,000. per mile, that is another factor. If you were able to sell your bonds at 3% or 2-1/2%, as compared with 3-1/2%, that is another factor which enters into it.

If you are in the 5,000-vehicles-per-day area, then I think you have something you ought to look into very carefully. That does not mean it will be self-supporting. Of course, if it was 22,000 vehicles a day, I would not bother looking at it.

BY THE CHAIRMAN:

Q. When you say, "5,000-vehicles-a-day", you mean at all places on the toll road?

A. No, I would say the average.

BY MR. FULTON:

Q. That is the average daily traffic?

A. Yes, that is the total traffic for the year, divided by 365.

That does not mean that on every mile of the expressway you have to have 5,000 vehicles a day. Some sections may have 15,000 vehicles a day, and that will compensate for a good many miles of less traffic, and lower mileage.

We have that situation here (indicating). I think we will average pretty close to 5,000 everywhere, but some sections will be well over 30,000 vehicles a day.

BY MR. MacDONALD:

Q. Is there seasonal variations?

A. There are seasonal variations, but it is not serious, because that is taken into consideration in designing and financing the project. But there is quite a variation, yes.

BY MR. YAREMKO; Q.C.:

Q. The survey which was originally made, was the survey upon which a decision was made to proceed with the toll thruway? I guess we would have to refer to that to see on what basis of information you arrived at the conclusion that it would be feasible.

A. I am sorry, I do not follow you.

Q. There was an original survey made?

A. Yes.

Q. And on the basis of that survey, and the figures which were produced on that survey, the people who were loaning the money came to the conclusion that their loaning was

justified?

A. Yes.

Q. And if they went to those figures, they would find pretty closely what those 5,000 vehicles per day would bring in?

A. That is right. If you did not have the 5,000 vehicles a day - well, I will put it in the affirmative; if you have 5,000 vehicles a day as an average for the turnpike, it does warrant very thorough study, because there is a strong possibility that it will be entirely self-supporting.

If it dropped below 5,000 vehicles per day very much, I would say that is quite questionable.

BY MR. AULD:

Q. Mr. Tullamy, as far as the percentage between commercial and private vehicles on your thruway at the present time is concerned; do you, offhand, know what - for instance, that 40% of the vehicles are commercial, and if so, what the percentage of total revenue would be?

A. You can get figures for that.

Q. About what percentage of the vehicles would produce the revenue? 20%?

A. No doubt - but, why guess? I can get you those figures. It might be 20%, or a little less.

BY MR. YAREMKO, Q.C.:

Q. Do the figures of your commercial vehicles using the toll thruway at the present time correspond with the estimate?

A. Very closely indeed. It is amazing.

I want to describe a little bit further about the basis of financing. I think that is what you are trying to find out.

THE CHAIRMAN: Yes.

THE WITNESS: The analyses on which bankers loan the money for financing a toll road are very detailed indeed. It is not just a 5,000-mile-a-day or a 10,000-mile-a-day traffic for the road.

What we did - and I think every toll road Authority or enterprise should do - was to make a very comprehensive origin-and-destination study of traffic, as it presently exists, so we set up stations at all points all over the whole State highway system, and we took automatic records of traffic flows, and we also took actual samples by interviews on traffic, and we handed out postal cards also at these stations, and by relating the actual interviews with passenger car occupants and the total volume, we were able to get a relationship which would stand up, which relates to the volume of traffic at any one point.

For instance, you are stationed at an intersection, and you find that out of all the traffic that passes that one point, 10% of it is going to Buffalo, 5% is going to Syracuse, another 10% is going to Batavia, between Rochester and Buffalo. And so on, all the way down.

You tabulate the different flows of traffic.

You also find that of the 10% going to Buffalo, 3% is from trucks engaged in business going back and forth, or commuters, or some other type of traffic which calls for constant daily use of that road. In that manner you find out where the traffic comes from, where it is going, and how often it takes the trip.

Then you find out the relationship between that and the total volume of traffic. If 10% of the traffic, as you learn from interviews, goes to Buffalo, and you check the passenger cars, and you find from the returning passenger cars that another 10% went to Buffalo, you would be safe in assuming that the remaining cars which you know went by, but which you did not closely check up, were cars over the 10% which went to Buffalo. Do you follow me?

Q. So you know where they came from and where they go?

A. Then the next is to determine which is the best route to follow, which is the nearest route, which has perhaps too many hills, or too many curves, or there are too many traffic lights, or too many feet of rises and falls.

Then you put that to one side, and refer to it later. Then you have to consider the thruway or express highway, and you have to take into consideration how far it is to go from the point of origin to the point of destination, and adding on to the thruway, the highways leading from it, which will add to your mileage.

Then you find out how long it would take to make the trip as compared to making it on the old road. Maybe

it takes a half an hour less, then that is a plus factor.

Then you find out that by raising a hill on a certain part, you can only allow for 500 feet, and it is easy to convert that back to truck operations, because with more than 500 feet you would eliminate the trucking operations altogether.

Then you come to the number of traffic light stops. Every traffic light stop wears out so many tires, and uses up so much gas, and so forth.

Then you ascertain that perhaps on the thruway route you have only 5 traffic lights -- that is, on a thruway and roads leading to it -- whereas on the other road you might have 125. That is all converted back into the cost of operation of vehicles over the highway.

Then you tabulate the 10% which went to Buffalo, and you add up the plus factors, and all the negative factors to see what the inducement is to go by the thruway or a free road.

Then you say, "We will charge so much toll to see what the people would save in operation, and you take off the cost of the toll, to see what the saving is for the cars who take the express route, as compared to the other route. Then you think there is a theoretical saving of \$1.00 by taking the thruway. Lots of people do not pay any attention to that; it is too theoretical. You may get 40% of those.

In that way, you will develop the traffic which flows over the thruway or any other expressway, which has

to do with the total traffic.

Then you come to another factor which is called, "the induced-traffic factor".

Say you live in Fort Erie, and your Mother lives in Windsor, and you like to visit her as often as you can, but it is a 5-hour trip, which is a little long and you find you have to stay over-night, so you only go there perhaps four times a year.

Then you get an express highway and you can make the trip in 1-1/2 hours less time, and you arrive rested, and are not all worn out, and have not had two or three narrow scrapes, and you can visit for lunch and dinner and drive back at night. So instead of going four times a year, you go ten times a year. That is what we call "induced-traffic".

That also applies to trucking. It not only applies to the ones I have mentioned, but includes shows and buying trips and all that sort of thing.

So you will figure out the "induced-traffic" on every section of the expressway, then you add the traffic which would go on the expressway anyway, which traffic is available today, and the traffic which will be induced as a result of the expressway, and putting the two together would represent the amount of traffic you would get, the amount of revenue, and the amount of toll, which would indicate the gross return from the express highway per mile.

Then against the gross revenue, you have to pay

the cost of operation and maintenance, toll collections, and build up a reserve to take care of the ultimate repaving, and things of that nature.

That result will give you the figures upon which you can count to carry the financing.

If the net return would be somewhere around 1.8 of what is actually required, then the chances are you can get a fairly good loan.

That is about the way it works out. In other words if the indicated net revenue is 80% greater than what you need to carry the financing, you can get a pretty good loan. If it was 20% in excess of what you need, under normal circumstances you would probably pay a pretty high rate of interest, if you could get a loan at all.

That is the way they go about making surveys, to find out whether it is, or will be, self-liquidating. You cannot go by rule of thumb, and say "5,000 vehicles a day will do it". It is just impossible.

BY THE CHAIRMAN:

Q. You say your surveys have been remarkably accurate?

A. Yes. It is utterly amazing how close ours have been. These surveys have been directly "on the button".

Q. Were they made by your own staff or by outside personnel?

A. We use Madigan & Hyland, an outside firm, of New York City. We did a great deal of work for them, such as field work.

Q. Are their figures accepted by the bankers?

A. They accepted the Madigan & Hyland figures.

BY MR. ROOT:

Q. You said the route was 562 miles long?

A. Yes.

Q. How many people live within 25 miles of the road?

A. I can give you that roughly.

Q. Well, approximately?

A. From 12 million to 13 million.

BY MR. AULD:

Q. Would a good deal of the manufacturing of the State be within that same area?

A. That is right. I can tell you this; if you can finance an express highway, either as a freeway road or a toll road - logically as a toll road - it certainly will be a terrific boon to industry and commerce. We have experienced that all across the State. It has been utterly amazing how our industrial growth has taken place.

BY MR. JOLLEY:

Q. You mean new growth?

A. Yes. We can definitely put our fingers on \$150 million worth of brand-new industrial plants which have been built right alongside the thruway, and we have not been in operation for one year yet.

BY MR. AULD:

Q. It is roughly the same as it was in the years when the railways were built?

A. The same thing. How much more there is of a similar nature which has not come to our attention, above the \$150 million, I do not know. It is going on all along the line. Land values have gone up 1,000% in many places. We bought land for \$750. an acre, and now it is selling, in many instances, for \$6,000. or \$7,000. an acre, and in some places it has gone up to \$23,000. an acre.

BY MR. COLLINS (Secretary):

Q. Do you get much pressure for private access?

A. Yes, but not too much, considering the fact that we are all over the State. I will cite an example to you. I have three places - three communities - in this State - small communities - which are clamouring for interchanges. That is not very much, when you consider we have 562 miles of road.

BY MR. ROOT:

Q. Do the railways offer any objection to your building toll roads?

A. No. The railways are sort of "boxed in" a little bit, as far as opposition is concerned, because they have always campaigned against highway transportation, on the ground that those who used it should pay for it.

When we came out with a toll road, they could not argue against it, because the users were paying for it. So they did not say a thing. As a matter of fact, I must say that the railroads have cooperated very well. We cross them many times, and we have to have a separate contract

every time we cross a railroad, and they have been most co-operative.

As a matter of fact, we even bought a great portion of the Lehigh Valley railroad - are you familiar with Buffalo? We bought the main line from the suburbs to downtown Buffalo, and put a thruway on it, and they are moving their station out into the suburbs. It works both ways. They get "out from under" a big overhead, and we get the traffic tolls.

Q. Do you permit a higher speed of truck traffic?

A. Not truck traffic, but we permit higher rates of speed for passenger cars. We permit 60 miles an hour for passenger cars, and 50 miles an hour for trucks and busses. We think that is safe to permit that.

We have designed the road for speed in excess of 70 miles an hour, but people are not geared to drive at that speed, and the cars are not yet ready for speeds of that nature, so we have established it at 60 miles an hour, which we feel is a safe speed.

Q. How does that compare with other roads?

A. 50 miles an hour straight.

BY MR. MANLEY:

Q. Will you control the type of vehicles which will use these roads?

A. Yes, within certain limitations. We have adopted the same standards as State highways, as provided by the State Motor Vehicle and Transportation Law. In other words, we

would not permit, without special permission, trucks heavier than those permitted on the State highway system, or trucks which are longer, or heavier, or higher.

Q. The trend is to go into the larger type of vehicles and carry heavier loads.

A. Yes, that is the trend at the present time.

There is a very strong movement that where it is possible they should go back to lighter loads. I do not think it is progress. I, personally, do not agree with that. I think the trend is toward a higher and faster and heavier loads.

But, on the other hand, I do not believe you can successfully operate right now on the basis of the express highway system, because they are all related to the other highways which feed them and take traffic from them.

I think the long-range view is going to very definitely be toward highway classification, that we in the United States, and you in Canada, will probably have an ultimate express highway system, nation wide, which is capable of carrying heavier and faster loads.

I will now stop and give you another basis for thought. It is totally uneconomic to design town roads and town bridges, and little farm-to-market roads and grade them by the classification applicable to the other highways, which permit the giant trucks to operate over them. We say that these giant trucks probably cannot operate over these roads. Yet, we are designing our bridges to carry

them, and pavements to carry them. That is costing the tax payers a great deal of money in first cost, and carrying charges.

It seems to me, in the long run we will have this major express system designed to carry heavier loads, and permit heavier trucks which are specially licensed, to operate on them, and only permit licensed lighter trucks to operate on the lighter roads. But the lighter trucks can operate on the village roads, and the main streets, and also on the thruway.

That is what the railroads have done, where their little branch lines are not capable of carrying the freight locomotives and trains which the main lines can.

I think we will come to that.

The trucking companies are already establishing big terminals adjacent to our thruway interchanges. They bring in their cross-State trucks and transfer to lighter trucks and make their city deliveries with the lighter trucks right now, for their own convenience. They are making up much of their double-handling charges, by making more efficient use of the express routes which are capable of carrying the heavy trucks along the express highways.

They are also doing another thing. They are classifying freight to customers. For instance, they built a big truck terminal near a city, and there may be 10 big department stores, such as you have in Toronto,

for instance, and they get truck shipments from all over Canada, and probably some from the United States, every day, dresses from one place, and perhaps coats from someplace else.

As it is now, each truck which comes to Toronto from a dozen different municipalities, goes to each store on the city streets.

These truck terminals are being established next to the express highways, so that instead of 12 different trucks going to one department store and unloading their stuff, they unload it now in the truck terminals, and all of the materials for one store which arrive at the truck terminal is put on one truck, instead of 12, and sent to a particular department store.

That reduces the traffic on the city street systems, too. It is all made possible by this express highway system, which ultimately will lead to classification.

- BY MR. MacDONALD:

Q. What is the relation of the Authority to the Department of Public Works?

A. There is no legal relationship, but we have a contractual relationship. We are a totally independent agency, but we have elected to request the

State Department of Public Works to act as our consulting engineer for our organization and the State Department of Public Works has, therefore, been the agency which, to a great extent, laid out the Thruway, planned it, and supervised the construction.

We lay down the policy which the consultants shall establish, and we hire consulting engineers and make them available to the Department of Public Works and the State Highway Department. They are engaged on the work, and that is the only relationship; it is a contractual one.

Q. What else is done to facilitate financing beyond guarantying a portion of the bonds, income tax free, and so on?

A. Of course, we are the first one to start out on a guaranty. Another agency of which I know had the State guaranty a portion of the debt. We think that was a great innovation, because it certainly saved us well over \$100 million in interest charges -- a great deal more than \$100 million -- in interest charges. We could probably have sold our bonds without it, but our interest rate would have been probably around $3\frac{1}{2}\%$ to 3.7%. Our last selling of \$50 million worth of bonds, was at 2.5%. You can

see what that means, as it stands now.

You can do as we have done also, and that is, to only guaranty a portion of the debt, and get just the same results without any effect on the State's over-all debt.

For instance, a guaranty does not actually act as a debt of the State. I do not know whether it would in Ontario or not. But there is the over-lying need -- whatever it might be called -- which does have some effect on the credit of the State.

We borrowed \$500 million with the guaranty, and we also borrowed \$350 million without it. We got just as good an interest rate, practically, without it as with it, but there was a clause in there which stipulated that the first lien on our revenue was the straight revenue bond.

The type of straight revenue bonds for \$350 million worth had an \$850 million project behind it, so they had the normal coverage, plus the other coverage, so we received as good an interest rate as on the State guaranteed, and it had no effect on the credit of the State at all.

BY MR. ROOT:

Q. Does the State get any protection by way of security? They have a first mortgage?

A. They have a second mortgage.

BY THE CHAIRMAN:

Q. Is that done legally?

A. Oh, yes.

Q. There is some return for the guaranty?

A. No, there is no second mortgage, although, in practice, it is a second mortgage.

BY MR. ROOT:

Q. If you were not running this road efficiently, the State could run it and take it over under the guaranty?

MR. JOLLEY: Not without paying off the \$350 million.

THE WITNESS: No, the ones who would take it over would be the bond holders. They would take it over first, and put it in the hands of a Receiver to operate, and the State would be in on that deal, no doubt.

The State would either tell the bond holders, "Do not do that; we will act as a Receiver", or they would "go along" with it.

But the initial action would be taken by the bond holders. Some one bond holder might become dissatisfied with the operation, and do that.

BY MR. JOLLEY:

Q. So the bond holders, holding the \$350 million

would take it over?

A. Yes, but that situation is so remote as to be almost impossible.

BY MR. MacDONALD:

Q. Is there any State assistance for those bonds?

A. No State assistance. We have a little assistance from the Federal Government, which is contributing one half the cost of construction of some of the free sections.

BY MR. AULD:

Q. As part of their over-all assistance programme?

A. Yes.

BY MR. MANLEY:

Q. What do you propose to do with it, as you retire the bonds? Do you intend to increase your mileage?

A. No, we cannot increase our mileage. As a matter of fact, I think we could not, and nobody else could who is starting a toll road.

One of the criticisms of governmental responsibility, is that it keeps growing and growing and growing, and becomes a big octopus, which controls too much. You can prevent that by stipulating that they cannot extend what they are now authorized to do, without

another Act of the Legislature, authorizing them to do it.

We have the authority for other extensions other than this Authority.

BY MR. MacDONALD:

Q. What do you intend to do? Reduce the tolls, or will the maintenance charges keep them up?

A. No. We are establishing a fund to take care of depreciation, as part of our annual operating costs, so that when we need money -- say ten or fifteen years from now -- for some major maintenance or construction -- we cannot call it "reconstruction" because we have not reached that stage yet -- but we will have the money all ready, so there will be no increase in tolls, and we do not have to worry about that, because a fund is set aside for that purpose.

But as our debt decreases, and if our traffic increases as we have estimated, one will offset the other, because we included the debt decreasing and the revenue increasing.

So until the bonds are actually paid off, we have the whole thing planned out, financially.

If traffic increases at a greater rate than we have figured -- which is very likely -- then we will have the option of reducing tolls, or paying off the

debt faster.

BY MR. AULD:

Q. That will happen about fifty years from now--

A. The bonds are out. Of course, it is impossible to look that far ahead. Dear knows what the situation will be then, but if it is as it is today, and our thinking then is what our current thinking is, I believe the Thruway will continue to operate, and the fees collected merely for maintenance and operation, and probably those fees would be brought down, and a small sticker used for license plates, to be attached to the windshield, and that is all there is to it.

Q. They would continue to be toll facilities, but the toll would be reduced?

A. There would not be ~~any~~ any toll; there would not be any toll collectors, but probably a sticker on the windshield, and the police would be watching, and if they saw a car operating without it, they would haul it in, and probably there will be reciprocity, so if it was a car from out of the State, it would not need a sticker.

You would need enough to maintain the roads.

Q. In other words, it would never be part of the State system?

A. Not necessarily so. Alternatively, what I

suggest would be an increase of the State budget for maintenance and then put it into the State Highway system, and let the State maintain it.

That could be done, if the State wanted to appropriate the money out of its budget.

I just suggest that one, because I have always found that the State and local bodies just do not have money enough to meet all their current expenses, and they hesitate to take on new obligations.

Q. I think what we are trying to get at is this; is there anything in the present Act or Statute setting up the authority, which says that will happen?

A. No, that is too far ahead. No one can look that far ahead. Fifty years from now, we may not even be using roads.

BY THE CHAIRMAN:

Q. How did you go about getting the Federal Government to agree to that tax-free proposition? Are they interested in the roads, perhaps?

A. No, that has been the national policy ever since we began. No municipal bonds are taxed, and the reason has been to make it relatively easy to sell local bonds.

If each of our municipalities was in competition with the Federal Government, it would mean the municipality

would be rather "up in the air", and the Federal Government would be away down, obviously, with the increased security.

BY MR. AULD:

Q. Federal bonds are not taxable?

A. Yes, they are.

Q. Going back to what we were discussing earlier, that is, the freeways as parts of the Thruway; do you run into any collection problem, owing to the fact that a part of the road is free?

A. Yes, we have to put a barrier right across the road.

Q. Or somebody would or could go right through?

A. Now they have to stop.

Q. And start all over again, so to speak, and get back on the Thruway?

A. Yes.

Q. How far would these free sections be apart?

A. I think it is about seven or eight miles, and then there are not any more for maybe forty miles in one direction, and seventy-five miles in the other. There is one little piece near Buffalo. If you are going from here to Cleveland, as you approach Buffalo you would have to pay a toll, and then ride six miles.

free, and then get on to another toll road beyond Buffalo.

As you approach New York City, you would have to pay it to the head of the bridge on the west side, and then pay it again as you approach New York City.

I do not recommend that, unless there is some basic reason for it.

---Further discussion regarding freeways and thruways, not reported by direction of the Chairman.

THE WITNESS: We did it because of two things; first, we got one half of the cost of construction given to us by the Federal Government, which would far more than compensate us for the loss of revenue we might sustain through the irritation of customers.

Secondly, as I said at the outset, we want a large number of diffuser points, which it would be impossible to get in any other manner. And there would have to be a basic reason for doing it. Do not do it just to save collection charges.

BY MR. ROOT:

Q. What about the cost of operating? What percentage of the cost is paid by letting out concessions, such as restaurants?

A. Oh, relatively small. That is the nuisance part of our business. We make a very sizeable sum of

money out of it, but, relatively, it is very small. But when people look at the figures from our concessions, they think it represents an awful lot of money.

I will give you our estimate of revenues, so you can get the picture.

BY MR. MacDONALD:

Q. The over-all in the State is apparently 7% -- that is, revenue from concessions?

Are yours comparable to that?

A. No, I think it is higher than that.

BY MR. YAREMKO, Q.C.:

Q. When the original survey was made -- and you have now ended up with 542 miles of Thruway -- would it have been feasible to have gone through with the Thruway for a 250-mile stretch, or a 100-mile stretch, or did you actually need the 542 miles?

A. No. As a matter of fact, we got a lot of dead horses on it from a financial point of view.

New England has a thruway which runs from New York City to Connecticut, along Long Island Sound, and it is very costly. It is so costly, that the ordinary revenues we get from the New England Thruway would not meet the interest on our indebtedness, but it is probably one of the most important traffic bottle-necks in the State, from our point of view, and it is

felt we must improve sections of it.

The section from Pennsylvania to New York is carrying on financially.

So, to answer your question, we could have attempted that financing very early.

Now we have another one of the same kind, that is, the one which goes over the main thruway, through Buffalo, and on up to Niagara Falls, tying up with the Rainbow Bridge. That is a dead horse financially. We could have dropped all of it. But it is important from a traffic point of view, to get traffic in and out of the Niagara frontier.

It is also important to tie in with the Queen Elizabeth Highway, so, while it does not pay for itself, it is an experimental section of the road which starts down in Pennsylvania, and New York is carrying it.

BY MR. YAREMKO, Q.C.:

Q. Would it have been possible to build a toll road from Albany to New York?

A. Yes.

Q. You could, where they had a toll road for about one half of the distance, which would have paid for it?

A. Yes.

Q. Or the reverse, from Albany to Buffalo?

A. That is questionable. The reason I am concerned about the road from Albany to New York is that we have this big bridge across the Hudson River, and the revenue which will be produced by that is terrific, and the bridge will carry a very substantial portion of the cost of the New York Thruway system.

BY MR. McKENZIE:

Q. Is there a separate toll for that?

A. Yes, for a car. The financial set-up is this; it is a charge of 50 cents per trip for a passenger car. There is a sliding scale of rates for trucks per trip, depending on the size of the trucks. If a person is commuting, and desires to buy a monthly commutation ticket, then the rate is 25 cents.

BY MR. COLLINS (Secretary):

Q. Would the possession of a special permit be required for that road?

A. No. For instance, any revenue this year for the month of September -- in September, we sold 1,116,000 gallons of gasoline.

BY MR. ROOT:

Q. You sell your own gas?

A. No, that was sold on concession.

Q. You sell the concessions to the oil companies?

A. We rent the stations. I will tell you why we

do that, in a minute.

That sounds like a lot of business, over one million gallons a month.

Just the snack bars, where all they had was "hot dogs" and hamburgers and coffee -- because our permanent restaurants were not in operation -- sold \$137,000 worth of just "hot dogs" and hamburgers, in one month.

That sounds like an awful lot of revenue, but it is really only "peanuts" when you compare it with the total amount.

BY MR. MacDONALD:

Q. Roughly 10% of the gross revenue?

A. Our gross revenue that month was -- outside of the stations -- about \$1,600,000. Our gas stations amounted to \$116,000, so it was about 10% of the total.

BY MR. AULD:

Q. Do you lease these locations on a percentage basis, that is, a percentage of the business they do, or is it on a straight yearly rental?

A. I did not describe how we awarded these contracts. That is something which is very important. We have done it differently than anybody else.

Every time, so far, we have negotiated a contract for restaurants, and there is a great deal of

merit in that, because, as you know, we want to have good restaurateurs, and it is hard to get them by competitive bidding. But we wanted the competition and we wanted protection.

So we first divided the Thruway into three sections, New York to Albany, Albany to Syracuse, and Syracuse to Buffalo, and then we decided we would have one operator in each one. We did that mentally.

Then we advertised we were to give out restaurant contracts, and anybody interested could write in and tell us they were interested, and we would send out to them certain qualifications which were necessary to bid.

We had carefully determined what the qualifications were to be; they had to have experience in the restaurant business and dealing with the general public, as compared to somebody operating a concession in a big industry. They had to have a double "A" rating in Dun and Bradstreet. They had to be in business for five years. And I think a few other factors; they had to have a good reputation, and have been doing business on a national basis; they had to have working capital of a certain amount.

We sent these qualifications out to everybody who was interested, and out of 156 people who were

interested, only nine qualified. We weeded out a lot. We had three contracts to award, and had nine potentials.

We then advised those nine that on a certain date we would take bids for the rental of our restaurant buildings, and we drew up specifications then for the manner in which they must operate the restaurant; the number of waiters and waitresses and how often they had to clean it, and how to take care of the rest rooms, and how they had to be manned.

We specified they had to serve breakfast, luncheon and dinner seven days a week, and we specified, for instance, the amount of white bread which had to go into chicken sandwiches, the number of ounces of butter, the number of ounces of white meat, and the number of ounces of dark meat, and the quantity of lettuce, and such other items.

We specified the whole menu, and also the prices at which they were to sell.

We told each bidder he had to furnish a Thruway breakfast, luncheon and dinner, every day for the price specified, and we specified the quality and the quantity of the food.

A bidder could have his own menu, but he had to submit his own menu together with his bid, so we would

know what his menu was, and what his prices were.

We told him he could only have one of these areas.

So we got the bids in and awarded it to the highest bidder for each one of the sections. Now we have the method of controlling the quality and quantity of the food, at least for the Thruway, and we have a way of controlling the prices of the items which are sold.

If prices go down, he must bring his prices down; if they go up, he can put his prices up a little.

We did the same basic thing with gas stations, and we get anywhere from \$15,000 to \$16,000 worth of gas business done at the restaurants, as a result.

We get somewhere around 7 cents a gallon or a little better, on the gasoline sold, on an average, as rental for our gasoline stations.

---Whereupon, at 12:55 o'clock p.m., the further proceedings of this Committee adjourned to attend a luncheon tendered by the New York Thruway Commission to the Committee.

---At the conclusion of the luncheon, the following proceedings were had:

MR. EVANS: A year ago, the newspapers wanted to get the reaction of the truckers to the Thruway. We were new, and they had not yet made up their minds

as to what their feelings would be, and naturally they would not go into it with both feet until they had proven to themselves that it was to their advantage.

This particular newspaper man was inclined to be critical, and he was looking for criticisms, and he went around, but was unable to get any criticism, except from one trucker by the name of Vogel, who has a large fleet of trucks in service. He said he was reserving his judgment and if it proved to be everything the Authority said, he would be willing to use it.

So our trucking representative went into the matter thoroughly, and he went to see Mr. Vogel, and in the meantime, Mr. Vogel had become so enthusiastic that he wanted to write to us describing what his position was.

He said that during the nine months of his operations on the Thruway, were the first nine months he had ever operated without a scratch on his equipment, and as a result his insurance rates had gone down in excess of the amount of tolls he had to pay, so by his lowered insurance alone he had paid for all the toll charges.

In addition to that -- our maximum grade is 3%, as Mr. Tallamy has no doubt told you -- and Mr. Vogel has been able to change the type of tractors from the very heavy to the lighter ones, a difference and saving of 1,200 pounds, which he can put into his pay

loads. As you may know, the weights are limited here by State law.

In addition to that, there was the time saved and the mechanical savings in regard to the upkeep, the amount of gasoline consumed, and the wear and tear on the tires.

In fact, he asked us to write the letter for him and he would sign it.

I may say that he is a completely independent operator.

THE CHAIRMAN: It is a very big outfit?

MR. EVANS: Yes. The point I wanted to "get across" was that the insurance saving alone paid for his tolls.

This all comes back to that good roads question; You pay for good roads, whether you have them or whether you do not. If you do not have good roads, you are paying for them, notwithstanding, in insurance and in increased wear and tear on the vehicles and tires, and all these other things.

MR. ROOT: How will your accident rate compare per thousand miles of road?

MR. EVANS: I hate to say anything about it, because every time I mention it, we have an accident. But you have asked the question, and I will try to

answer it. Our death rate is 2.6 per 100 million miles, while the national average is between 6 and 7, and the annual State average is also between 6 and 7.

MR. ROOT: In other words, about one third?

MR. EVANS: Yes.

MR. AULD: Is that representative of all types of accidents, or would there be more of some other types -- or less?

MR. TALLAMY: Collisions are more frequent on the State highways, too.

MR. AULD: But roughly, about one third?

MR. TALLAMY: I do not have the figures.

MR. EVANS: I think that is about right.

MR. TALLAMY: That is what this particular trucker said, that it was the first time in the history of his firm when he operated without a scratch to his equipment.

MR. YAREMKO, Q.C.: In regard to the enforcement of your traffic laws; you use the Highway State Police to do the enforcing?

MR. TALLAMY: Yes, and we pay for that.

MR. YAREMKO, Q.C.: The number of infractions -- let us say, outside the city limits -- are they less on your Thruway?

MR. TALLAMY: Yes, they are very much less.

As a matter of fact, we have more restrictions than on the local highways. For instance, we do not permit them to drive on the shoulders of the road, and we do not permit them to make any "U" turns.

MR. EVANS: Then there are non-traffic violations, such as evasion of tolls, and things of that nature.

MR. TALLAMY: Have you any idea of the relationship between the infractions on the highway system, as compared to the Thruway, Mr. Evans?

MR. EVANS: I cannot answer that question; I am sorry.

I might answer it in this way; there were about 730 arrests last month on the Thruway, out of approximately one and one-half million trips.

Out of that number, 530 were for traffic violations. But when you figure 400 miles and 530 arrests for traffic violations, that represents a little over one arrest per mile, for a thirty-day period.

They are mainly for speeding, but you do get such things as driving without a proper license, or a proper tag. You would be amazed at the number of people who are driving without licenses. They just take the chance.

MR. MACNEE: Are you speaking of cars which

appear to be old?

MR. EVANS: Oh, yes.

MR. MACNEE: Some of them should not even be running at 30 miles an hour.

MR. EVANS: No, they would be considered dangerous.

MR. ROOT: You said this Vogel company was a large company. Do you know how many trucks it operates?

MR. EVANS: I am sorry. I do not know. It is a big fleet. That is all I can tell you. He is the biggest operator in Albany.

MR. TALLAMY: I think at least 150. I am just guessing, but I think it would be at least that. They are building one of these big terminals.

MR. ROOT: I think they will have to establish terminals, and do their deliveries with smaller trucks. The larger ones simply jam up the streets unnecessarily.

MR. TALLAMY: Some of the stories industrialists tell us are really fantastic. They want to build their own industry right on the Thruway, to get the raw materials in and their manufactured products out, but one of the big things is getting the labour in and out. I have found that industry runs into that question very frequently.

I remember the Bethlehem Steel Company officials coming in to me recently, and they were very much upset, because a lot of their employees were leaving them and going to an expanding industry in the same metropolitan area. They said the reason they were leaving was that it took from three-quarters of an hour, to an hour, to get to and from their work, whereas they could make it in half the time to some other industry. They were really putting the pressure on to get some highway improvements. The same thing exists all the way through.

With the express highways, you can draw labour from thirty miles away, who will have only from thirty to forty minutes travelling time.

If you try to build up industry in the small communities now, those with 4,000 or 5,000 people, it means new homes and new subdivisions, new sewer extensions, and water line extensions, and sidewalks, and things of that sort, and the first thing you know there are additional schools required, or additions to existing schools, and these local taxes mount up, with a result that industry does not move there, but stays in the big cities. So we are still continuing the concentration of our defense industries in the big cities.

Now, with the Thruway, we find some of these industries are locating in the smaller communities, with some of their employees living as far as thirty miles away, and they can now travel the thirty miles in thirty minutes, where it formerly took them thirty minutes to get across town, anyway.

MR. JOLLEY: It is your opinion that industry will follow, to a great degree, probably more in some places than in others? I am thinking along the line of Fort Erie to Windsor, where there is a stretch of 275 miles. You think that industry might locate along that stretch?

MR. TALLAMY: Yes, Canadian industries would go to that section, beyond any question of a doubt.

THE CHAIRMAN: They are spreading everywhere along the Queen Elizabeth Way.

MR. JOLLEY: Toronto is well located geographically. Would you get proportionately as many industries between Fort Erie and Windsor?

MR. TALLAMY: I am willing to gamble anything that the rate of industrial expansion in that area would be four times what it is now, at least, -- perhaps a little more. You have the communities of St. Thomas, London, Chatham and Woodstock in that area.

Then you have the one great advantage that a

great deal of through traffic goes through those points and the international traffic would pay for your road.

THE CHAIRMAN: Have you any opinion on how that stretch could be affected by this new Ohio road? In other words, you will have an alternative road into Chicago.

MR. TALLAMY: Yes, from New York State.

THE CHAIRMAN: And there will be a feeder down from Detroit?

MR. TALLAMY: That is right.

THE CHAIRMAN: That is one of the problems when speaking of financial commitments. We might lose that traffic, because we have no control over it.

MR. TALLAMY: On the other hand, you have certain natural markets. You would be on the shortest route to all of New England, to Boston, and all the New England section, and it would be most convenient, because it is a water-level route all the way through. It would be the shortest, and the most convenient.

You have by far the shortest route and the most modern route to New England -- or you would have.

The Pennsylvania Turnpike is getting pretty congested now, and we also have the Massachusetts Turnpike which opened as a Thruway, and we have the

Buffalo-Syracuse-Utica-Albany and New York City route, and many of these large haulers do not just haul between the two cities, New York and Buffalo; they will haul between the different intermediate cities. They may have a load to Buffalo, and pick up something at Buffalo for Albany, and they might get a half a load which started in Detroit, bound for New York City.

If you checked the population from Detroit to New York City, by way of the Thruway, you would find you have a more congested population than along the Pennsylvania Turnpike.

MR. MacDONALD: The turnpikes are like aeroplanes; they are out of date in a few years.

THE CHAIRMAN: What is your present population?

MR. TALLAMY: About four million.

THE CHAIRMAN: Ours is about four and one-half million.

MR. ROOT: And we had about one and one-half million American automobiles on our roads in 1953.

MR. YAREMKO, Q.C.: I think with a new road, there might be a great many more Canadian tourists from Toronto and the Metropolitan area, going to the city of New York, for instance.

THE CHAIRMAN: From my area in London, everybody is heading for Buffalo, and on down to New York.

THE CHAIRMAN: Gentlemen, may I interrupt for a moment. We are going to proceed over the Thruway by bus, so we can see this road.

Mr. Tallamy, Mr. Evans, Mr. Ronan and Mr. Lang; I would like on behalf of our group to thank you very much for the most informative hearing we have had at our meeting with you. It is information we simply could not get in any other way. We could not get it out of a book, and we have to come here to be told, and we are very grateful to you, and we also want to thank you for this very pleasant luncheon.

MR. TALLAMY: Gentlemen, I want to express on behalf of the Authority, and my staff, the pleasure we feel at having you here. It has been most interesting to us, and if there is anything further we can do to help you in further appraising the problem, please do not hesitate to call on us. By that time, we may be a little more experienced than we are today, and what experience we have or will gain is yours for the asking.

I hope you have a pleasant trip down.

As you get to the Suffern Interchange barrier, we will have a man there waiting for you, and he will point out to you some new construction, over which we believe the traffic will move faster than going down

the old road into New York City, and it will give you the opportunity of seeing some of the road under construction, and also the bridge, which is a great spectacle.

I hope you will have a pleasant journey, and if there is anything further we can do for you, please let us know.

MR. ROOT: There is one question I would like to ask. I understand in California they are building a different type of road, which is free.

MR. TALLAMY: Yes.

MR. ROOT: Why did you decide to build the toll roads?

MR. TALLAMY: It was a matter of discussion. In California, they voted on the State bond issue -- I forget how much it was, but it was many hundreds of millions of dollars, and they had a campaign on for that type of appropriation, and they had to build it out of the appropriation.

THE CHAIRMAN: It is not a "pay-as-you-go" system?

MR. TALLAMY: It is paid out of taxes, really.

MR. MacDONALD: They have amortized it over a 50-year issue.

MR. TALLAMY: They are doing it piecemeal.

It is important to get the whole system completed quickly, if any section of the province is to get the benefit. You just cannot build a little piece of ten or fifteen miles, and have the effect of your thruway. It may be effective locally, but if you want to reap the benefit, you should build it quickly.

If you want to secure the benefit from industry, which will, in turn, depend on business from Detroit and Buffalo, or from the commercial use of your road, which commerce will depend on it to get from Detroit to New York and Boston, you must do the whole thing as quickly as possible. Otherwise, it has no effect.

MR. AULD: We were interested in the fact that you completed this 400-odd miles very rapidly.

MR. TALLAMY: Yes.

MR. AULD: Did you have any difficulty in doing that?

MR. TALLAMY: Oh yes, but it can be done. We had more difficulty than you will have up there.

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---Whereupon, at 1:50 o'clock p.m., the further proceedings of this Committee adjourned until Tuesday, October 18th, 1955, to reconvene in the city of Red Bank, in the State of New Jersey, at 1:30 o'clock, p.m.

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APPENDIX "A"

(NEW YORK THRUWAY)

SYNOPSIS OF REPORT

The New York State Thruway Authority is an independent agency created by the State for the purpose of financing, constructing, maintaining and operating the Thruway system. The ability of the Authority to perform its functions will depend on the revenues to be derived from Thruway users. In order to gauge its probable income and to provide a basis for a financial plan the Authority contracted for the preparation of an engineering study and report on the probable traffic, revenues, expenses of operation and maintenance, and capital requirements of the Thruway. This is a synopsis of that report.

THE THRUWAY PROJECT AND ITS ADVANTAGES

The New York State Thruway system will encompass approximately 562 miles of expressway constructed to the highest standards of modern design. There will be no grade crossings, no traffic lights, and vehicles will enter and leave only at designated interchange points where generous acceleration and deceleration lanes will be provided. The two opposing directions of traffic will be separated by a wide center mall; the

roadways will provide six lanes in busy sections, and where traffic loads are lighter four lanes will be constructed, expansible to six. The legal speed limits will be 60 miles per hour for passenger cars and 50 miles per hour for trucks and buses.

The route of the Thruway traverses New York State along its famous water-level route. Starting at the northern New York city line, it goes north and then west thru Westchester County to Tarrytown, where it crosses the Hudson River on a new bridge. Continuing westerly thru Rockland County to Suffern, the route then turns northward again and follows the Hudson River Valley as far as Albany.

From Albany the Thruway extends westward across the state passing thru or near the major cities of Schenectady, Utica, Syracuse, Rochester and Buffalo. Beyond Buffalo the Erie Section skirts the southern shore of Lake Erie to the Pennsylvania state line.

At a point just east of Buffalo, the Niagara Section branches off from the main line and passes thru the downtown part of the city. It then continues in a northwesterly direction across Grand Island to Niagara Falls. An additional South Grand Island Bridge is included in the present program, but second north bridge and the extension thru the City of Niagara Falls are to be carried out in a later phase.

About ten miles south of Albany, the Berkshire Section branches off to the east from the New York-Buffalo route, crosses the Hudson River on new bridge and extends to the Massachusetts line, where a junction will be made with the recently financed Massachusetts Turnpike.

The New England Section is a separate highway, not directly connected with the balance of the system. Beginning in the northeastern corner of the Bronx, it will parallel the shore of Long Island Sound in eastern Westchester County, and will provide much needed relief to the Boston Post Road. The projected Connecticut Expressway will be a direct extension of the New England Thruway.

Along its route the Thruway either intersects or parallels most of the existing main highways of the state. Interchange points will be provided at all important intersections, giving convenient service to every area traversed. The coverage of the state by the Thruway is such that eighty-five per cent of the total population resides within about twenty miles of its route.

Since the largest volumes of traffic are traveling to and from cities, it is important that the Thruway system be integrated with urban arterial routes which will carry Thruway users directly into the populated centers. The New York State Department of Public Works has been working with local officials for several years to develop adequate distribution routes and Thruway connections within

the urban areas. Continued progress in the realization of these programs will be needed to keep pace with the requirements of Thruway traffic.

The Thruway is also a vital segment of the growing turnpike system of the northeastern United States. Together with existing and planned improvements, the Thruway will provide a superhighway route from Maine to Chicago. Only short links are required to connect the Thruway with the New Jersey Turnpike, providing a continuous expressway route from Albany to Philadelphia, and, via various projected improvements, to more distant points in the West and South. The New York portion of this link is included in the present program of the Authority.

The Thruway is now either completed or under construction for the entire 427-mile distance between Buffalo and New York City, except for three miles just north of New York City. Work on other sections has been confined principally to planning, but once the necessary funds are made available, additional construction will be placed under contract as soon as engineering plans can be completed. Following is a summary of the various projects included in the Thruway program as contemplated under the existing and forthcoming financing:

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<u>Portion of Thruway</u>	<u>Mileage</u>	<u>Open to Traffic</u>
New York-Buffalo Sections		
Rochester-Westmoreland	120	June 24, 1954
Rochester-Buffalo	64	2nd half of 1954
Westmoreland-Suffern	213	2nd half of 1954
Suffern-New York City	30	July 1955, except 3 miles north of N.Y.C. Dec.1955
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Sub-total	427	
Connection Hudson River Bridge to New Jersey	5	January 1957
Erie Section	70	January 1957
New England Section	15	January 1957
Niagara Section to North Grand Island Bridge, utili- zing existing Grand Island Bridges		
Northwest of downtown Buffalo	16	January 1957
East of downtown Buffalo	5	January 1959
Berkshire Section	24	January 1958
Additional South Grand Island Bridge	<hr/>	January 1960
Total mileage	562	

As an expressway, the Thruway will serve both passenger cars and commercial vehicles. By virtue of its superior physical features, it will afford many advantages in convenience, driving comfort, safety and freedom from the interruptions and roadside nuisances of ordinary highways. The Thruway will also yield the more concrete advantages of savings in travel time and cost.

Extensive clocked test runs provide a basis for estimating the time savings to be gained on the Thruway. Passenger cars traveling between Buffalo and Syracuse, or between Syracuse and New York, for example, will be able to save about an hour under normal driving conditions. Between Buffalo and Albany the saving will be at least an hour and a quarter. Many trips in urban areas will be shortened by 15 to 30 minutes. During periods of heavy traffic on existing roads, the Thruway will provide substantially greater advantages since it will be able to carry large volumes without delay.

The Thruway will make possible considerably greater time differentials for trucks than for passenger cars. Savings up to four hours are estimated for trips across the state. Cross-state trips from New York City are considerably longer on the Thruway than on the diagonal route thru Binghamton, but excessive grades on this competitive route have a serious effect on truck speeds with the result that appreciable time savings can be achieved by using the Thruway.

EXISTING TRAFFIC VOLUMES ON ROUTES TRIBUTARY TO THRUWAY

In order to derive estimates of Thruway traffic, factual information was needed on present traffic volumes using routes tributary to or competitive with the project. The type of information required includes data not only on

the number and types of vehicles, but also on their origins and destinations.

Such information had been compiled by the Port of New York Authority for the lower Hudson River Crossings, and this was made available for the Thruway study. Additional data were required to supplement existing information on the upstate highways and river crossings, so a special traffic survey was organized to obtain the necessary facts.

The Thruway traffic survey was one of the most extensive ever undertaken, employing approximately 800 counters and checkers plus some 200 police officers. Traffic was checked in the spring and summer of 1950, sampling both week days and Sundays under different seasonal conditions. Survey stations were established at forty-nine points, including forty-one on main state highways, five on bridges and three on ferries.

During the period of the survey, over 1,500,000 vehicles were counted and about one fourth of the drivers answered questions as to their origins, destinations and frequency of travel. A broad factual basis was thereby obtained for use in appraising the probable diversion of traffic to the Thruway.

Since the survey stations were located to give a cross-sectional picture of trips that might use the Thruway in different parts of the state, it was possible

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to observe long distance trips at more than one point. By comparing the results all along the route, a composite summary of potential Thruway trips was obtained, affording a far more reliable picture of existing traffic than could be gained from a less comprehensive survey.

Analysis of the origins and destinations of all vehicles recorded in the survey revealed a total of about 960,000 trips that might have used the Thruway if it had been in operation during the four principal days of the survey. A brief recapitulation of the vehicle trips observed by the traffic survey is shown below:

RESULTS OF TRAFFIC SURVEY

Thursday, May 18, 1950	Thursday, July 27, 1950		
Sunday, May 21, 1950	Sunday, July 30, 1950		
	<u>Passenger Cars</u>	<u>Trucks</u>	<u>Totals</u>
Total vehicle trips counted	1,330,892	190,754	1,521,646
Trips potential to Thruway	874,300	89,029	963,329

ESTIMATED DIVERSION OF TRIPS TO THRUWAY

Knowledge provided by the survey on the origins and destinations of the actual vehicular trips on existing highways afforded a basis on which to estimate the probable diversion of traffic to the Thruway. The advantages of the Thruway include many intangible factors such as driving comfort and safety, but the time and distance comparisons

determined for all trips provided factual guides for judging possible diversion.

In evaluating the probabilities of Thruway use, each group of movements was considered separately. This was possible because all trips recorded in the survey had been tabulated according to zones of origin and destination, and a measure was therefore available of the number of vehicles making each zone-to-zone movement on the days of the survey. Each survey day and each type of vehicle was evaluated independently, and for each movement a factor was adopted representing the probable diversion of trips to the Thruway. By considering each element in its simplest form and then summing up the results, it is felt that reliable estimates were reached as to the volumes of traffic likely to use the Thruway.

These initial estimates of diverted traffic excluded any consideration of Thruway fees. The results indicate that approximately half the trips classed as potential to the Thruway would actually change their routes to use it. This is shown by the following summary:

ESTIMATE TRIPS DIVERTED TO THRUWAY
AS OF FOUR SURVEY DAYS, 1950

	<u>Passenger Cars</u>	<u>Trucks</u>	<u>Total</u>
Trips potential to Thruway	874,300	89,029	963,329
Trips diverted to Thruway	471,669	43,038	514,707
Per cent of potential trips diverted	54%	48%	53%

Traffic volumes at any given point vary according to fairly well defined seasonal, daily and hourly patterns. Where continuous traffic records exist, as at toll bridges and tunnels, it is possible to establish these patterns with considerable accuracy. With their aid, a full year's traffic volume can be predicted rather successfully on the basis of short periods.

In order to estimate annual traffic volumes from sample periods on highways for which continuous records are not available, it is necessary to adopt traffic patterns derived from other arteries having similar traffic characteristics. Records available from automatic counters on the main state highways were studied to determine the variations on different routes, and counters were especially operated for several months on existing highways paralleling the Thruway route. By comparing these counts with the traffic patterns of numerous toll crossings, a set of expansion factors considered applicable to the Thruway was derived.

By applying these values to the results of the Thruway traffic survey, annual estimates were derived corresponding to the volumes passing the survey stations. Similar expansion factors, slightly modified, were applied to the estimated number of trips potential to the Thruway and to the estimated diverted volumes. The resulting annual estimates are as follows:

	<u>Estimated 1950 Traffic Volume</u>
Total volume passing 49 survey stations	109,250,000
Number of trips potential to Thruway	68,940,000
Number of trips diverted to Thruway - no fees considered	34,882,000

Following is a breakdown by vehicle types of the trips estimated to be diverted to the Thruway from the main highways covered by the survey.

	<u>Estimate 1950 Traffic Volume No Fees Considered</u>
Passenger car trips	30,506,000
Light truck trips	1,687,000
Heavy truck trips	<u>2,689,000</u>
Total trips diverted to Thruway	34,882,000

EXTENT OF THRUWAY USE BY DIVERTED VEHICLES

The Thruway traffic survey provided a large amount of detailed information as to the characteristics of traffic likely to be diverted to the project. The probable revenues from Thruway use fees will be largely influenced by the frequency with which individual vehicles use the Thruway and the distances they will travel

FREQUENCY OF THRUWAY TRIPS

Analysis of the survey data showed that during

the course of a year, 14 per cent of all passenger car trips expected to be diverted to the Thruway will be made only once. Another 10 per cent of all trips will be made by cars repeating the same trip from two to four times a year. Commuting and regular travel will account for about 25 per cent of all trips, whereas 51 per cent of the trips will be made by cars repeating their trips with frequencies from about once in two months to four times a week.

If each vehicle traveling on the Thruway always made the same trip and never any other, the number of different vehicles represented in a given traffic volume could be rather accurately computed from the available data. Since some vehicles will actually use the Thruway for different trips, the term "vehicle run" is applied to all the trips made between the same points within a year by a single vehicle.

With the aid of the trip frequency data, it is found that the unrepeatd trips, which constitute 14 per cent of the total, actually involve 72 per cent of all vehicle runs. While some of the vehicles involved will also make other runs on the Thruway during the year, the significance of the occasional trip is evident. In order to provide proper service to the public, the Thruway must serve the occasional user, because most of the individual vehicles on the highway during a year will be making infrequent trips. This conclusion is further

reinforced by noting that the second group of infrequent trips, made from two to four times a year, account for 10 per cent of the trips but 16 per cent of the vehicle runs.

At the other end of the scale, another striking fact is found. The commuting trips made with a frequency of five times a week or more, involving 25 per cent of all trips, represent only 0.4 per cent of the total vehicle runs. Even when all trips made more than once a week are considered, the number of vehicle runs included is only 1.0 per cent of the total.

The pattern of trip frequencies on the Thruway is therefore clear. A very few vehicles traveling regularly will pile up a very large number of trips, accounting for a substantial portion of the total traffic volume. On the other hand, during the course of a year most of the vehicles traveling will be making occasional trips. This is an important consideration in determining the fees which should be charged for use of the Thruway and the revenues obtainable therefrom.

Similar studies for commercial vehicles indicate that light trucks have a somewhat greater concentration of trips in the high frequency brackets, whereas heavy truck trips are largely made with frequencies of from one to four times a week.

The number of vehicle runs represented by the trips diverted to the Thruway, as of the base year 1950

with no fees considered, is summarized below by types of vehicles.

NUMBER OF THRUWAY TRIPS AND VEHICLE RUNS
Based on 1950 Survey - No Fees Considered

<u>Type of Vehicle</u>	<u>One-way Trips Per Year</u>	<u>No. of Different Vehicle Runs</u>
Passenger cars	30,506,000	2,986,000
Light trucks	1,687,000	69,500
Heavy trucks	<u>2,689,000</u>	<u>100,300</u>
Totals	34,882,000	3,155,800

In the previous analysis a small number of illogical questionnaire replies were noted. Indicating long distance trips with commuting frequencies. An adjustment was made to eliminate these replies which were equal to approximately 20,000 passenger car trips during the course of the year.

THRUWAY TRAVEL DISTANCES

The typical passenger car trip on the Thruway will be short. Estimates based on the traffic survey show that 56 per cent of all passenger car trips made on a free basis would use the Thruway for less than 20 miles, and another 25 per cent would range from 20 to 50 miles. Less than 4 per cent of all trips would use more than 150 miles, and the average distance for all passenger car trips is 34 miles.

Light trucks have even shorter trip characteristics than passenger cars, the average expected trip being only 30 miles. In the heavy truck class, however, many more long trips are made. It is estimated, on the basis of the traffic survey and without consideration of fees, that 38 per cent of heavy truck trips will be from 50 to 150 miles, and that 17 per cent will be over 150 miles. The average Thruway mileage for heavy trucks on a free basis is estimated at 94 miles.

ADDITIONAL SOURCES OF THRUWAY TRAFFIC

A number of sources of Thruway traffic have been analyzed with the aid of data other than the 1950 traffic survey. The principal sources of information were traffic volume counts and origin and destination surveys made by the New York State Department of Public Works on the Westchester County parkways and various state highways, and similar surveys conducted by the Port of New York Authority on the lower Hudson River crossings.

The methods of analysis utilized to appraise these additional traffic sources varied from case to case, but the general approach was to derive estimates of diversion to the Thruway, on a basis comparable with the survey estimates. All volumes included in these items were supplementary to the previous estimates of diverted traffic, and care was exercised to avoid duplication.

The estimated volumes of diverted traffic from additional sources total 22,795,000 trips at the 1950 level. A breakdown of these sources is shown in the accompanying table, together with the estimated volumes diverted from the main highways covered by the traffic survey.

The addition of substantial volumes of supplementary traffic is bound to affect the average trip frequency and distance characteristics of Thruway traffic. It is self-evident that most of the trips added are in the short distance category. Since short trips tend to be the ones made with high frequency, the additional traffic has the effect of raising the average frequency and lowering the average distance of Thruway trips.

The general picture previously presented on the basis of the traffic survey analysis is not radically changed, however, except that the heavy truck volume expected on the New England section lowers the average truck trip for the entire system to 60 miles. The overall conclusion previously reached is still true: a very substantial percentage of total Thruway trips will be made by a relatively few vehicles traveling regularly, but a very large percentage of the vehicles using the Thruway during the year will be making occasional trips.

THRUWAY TRAFFIC CONTROL AND TOLL COLLECTION

The basic method recommended for collecting Thruway use fees is the interchange control system. This recommendation is made after intensive investigation of various other systems, and it is considered to be the only means of assuring the collection of adequate revenues to liquidate the costs of the project.

The interchange system proposed for the Thruway involves the complete control of every entrance and exit along the route. This control is accomplished at interchange stations where all traffic is funneled thru collection lanes located entirely off the main roadway.

As each vehicle enters the Thruway it passes an interchange control booth and the driver receives a punch card ticket showing the point of entry, date and time, class of vehicle and number of axles. The vehicle then proceeds on its Thruway trip until it reaches its point of exit. As it leaves the Thruway it passes another control booth, located off the main roadway but within the Thruway interchange, and the driver surrenders his ticket. The collector inserts the ticket in a machine which automatically records the point of exit, date and time, and accumulates the number of axles and the fare. The collector at the exit point collects the proper fee for the trip, or verifies the vehicle's right to passage without paying

a fare. Passenger cars with annual permits will be required to carry punch card tickets in the same manner as other vehicles, but will be entitled to passage without fare. Tolls for other vehicles will vary with the type of vehicle and mileage traveled.

The system described provides complete control over all vehicles using the Thruway. No vehicle can enter or leave the Thruway without being checked in or out. By the use of suitable equipment and control systems it is possible to insure the proper collection of all revenues to which the Thruway is entitled and also to prevent the diversion of revenues after they are collected.

While the interchange control system is recommended as the basic method of collecting use fees on the Thruway, there are certain special circumstances where modification is warranted. These occur on the Niagara Section in the Buffalo area, on the New England Section in Westchester County, and near the southern end of the main Thruway in Westchester County. Operation of the large number of interchanges required in these populous areas would involve excessive operating costs, whereas elimination of interchanges would substantially reduce the service rendered. Since the three portions of the project mentioned are so situated that they can be excluded from the closed control system of the

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Thruway, it is recommended that they be operated free of control, with the tolls on these sections collected at strategically located barrier stations. Five such stations will be constructed, two on the Niagara Section, one on the New England Section, one at the Hudson River Bridge, and one near Tuckahoe Road in southern Westchester County. In addition, the two existing toll barriers at the Grand Island Bridges will continue to operate substantially as at present.

The interchange control system will begin in Rockland County at a point near Spring Valley and will continue past Buffalo to the Pennsylvania state line, except for a six-mile interruption just east of Buffalo, where Federal Aid funds were used and no tolls can be charged. The Berkshire Section of the Thruway will also operate under the interchange control system.

Under the proposals outlined herein, the entire Thruway system will have a total of 102 interchange points of which 42 will be controlled and 60 will be without control. In addition, there will be five control barriers at the extremities of the interchange system, plus seven toll barriers on the uncontrolled sections. The provision of a reasonable but not excessive number of interchanges is an essential part of the recommended toll system, as all control points must be economically justified. As proposed, there will be an

interchange on the average of every six miles on the entire system; within the controlled section, the average spacing of interchanges will be ten and one half miles.

ESTIMATED TRIPS DIVERTED TO NEW YORK STATE THRUWAY TOLL SECTIONS
1950 LEVEL - NO FEES CONSIDERED

Source of Traffic	Passenger Cars	Light Trucks	Heavy Trucks	Total Trips
Main state highways and bridges covered by Thruway traffic survey	30,486,000(1)	1,687,000	2,689,000	34,862,000(1)
Short distance trips	4,163,000	173,000	150,000	4,486,000
Long distance trips	37,000	0	0	37,000
Additional Hudson River Bridge traffic	2,189,000	38,000	175,000	2,402,000
Trips on Westchester portion only (passing toll area)	3,773,000	37,000	110,000	3,920,000
New England Section (trips passing toll area)	7,180,000	450,000	1,100,000	8,730,000
Trips on Niagara Section only (passing toll area)	2,860,000	100,000	220,000	3,180,000
Sub-total Bus trips	50,688,000	2,485,000	4,444,000	57,617,000
Total trips				40,000
				57,657,000

(1) Adjusted to deduct 20,000 illogical passenger car trips.

THRUWAY USE FEES

The use fees contemplated for the Thruway are of three types:

- (a) An annual fee for a permit entitling the Holder to unlimited use of the interchange control portion of the Thruway during the year. This permit will be available only to passenger cars registered in New York State. It will normally be distributed in the same manner as the regular motor vehicle license plates.
- (b) Mileage fees for all non-permit holders traveling on the interchange control system, graduated according to class of vehicle.
- (c) Fixed fees for each passage thru a toll barrier, graduated according to class of vehicle.

The accompanying table sets forth those rates recommended for the Thruway, which have been used as a basis for the revenue estimates.

The toll rates recommended for the Thruway are in general equivalent to or lower than the rates charged by most of the other turnpikes in the country, one exception being the passenger car rate on the existing Pennsylvania Turnpike.

RECOMMENDED CHARGES FOR USE OF THRUWAY - INTERCHANGE CONTROL SYSTEM AND BARRIER STATIONS

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Vehicle Classification No.	Type	Interchange Control System (1) Cents per Mile				Toll Barrier Stations (3) - Rate per Trip			
		Westchester and Niagara Stations		New England Thruway		Hudson River Bridge (4)			
P	Permit passenger cars	\$20/year (2)		-		-		-	
1	Passenger cars, taxis, ambulances, hearses	1 $\frac{1}{2}$ ¢		\$.10		\$.15		\$.50	
2	Passenger cars with trailer, light trucks with trailer, 3-axle tractors	1 $\frac{3}{4}$ ¢		.20		.25		.75	
3	Single unit trucks - 4 tires, 2-axle tractors	1 $\frac{1}{4}$ ¢		.10		.15		.50	
4	Single unit trucks - 6 tires	2¢		.25		.30		.75	
5	Single unit trucks - 3 axles	3 $\frac{1}{2}$ ¢		.35		.40		1.00	
6	Semi-trailer combinations - 3 axles	4 $\frac{1}{2}$ ¢		.40		.50		1.00	
7	Combinations - 4-6 axles	5¢		.40		.60		1.50	
8	Buses	3 $\frac{1}{2}$ ¢		.30		.40		1.00	
9	Official vehicles	-		-		-		-	
	Special vehicles requiring special permit	variable		variable		variable		variable	

NOTES:

- (1) Minimum tolls will be established at 10¢ per trip for passenger cars and light trucks and higher amounts for other vehicles, except that on the Hudson River crossing of the Berkshire Section a surcharge will be established such that the minimum tolls will be 25¢ for passenger cars and light trucks and higher amounts for other vehicles.
- (2) Fee for annual permit good for unlimited use of Thruway within interchange control system; available to passenger cars registered in New York State.
- (3) Existing Grand Island Bridge toll stations will continue to be operated substantially at present toll levels, with possibly some adjustments to bring the toll classifications into conformity with those used on the rest of the Thruway. The principal existing rates are as follows:

	<u>Passenger Cars</u>	<u>Trucks and Buses</u>
Single trip toll	\$0.25	\$0.30 to \$ 1.00
25-trip ticket	4.00	6.00 to 12.00
Monthly ticket (30 trips)	2.50	

- (4) Hudson River Bridge rates match those in effect on Port of New York authority Hudson River crossings. Monthly 40-trip commutation tickets for passenger cars will also be sold for \$10.00.
- (5) Limited to vehicles traveling on official Thruway business.
- (6) Oversized or overweight vehicles not covered by above classifications are charged higher rates depending on characteristics of such vehicles.

A trip for the entire length of the interchange control system will cost from \$5.85 for a passenger car to about \$23.30 for the heaviest truck. A passenger car traveling from New York to Buffalo will pay 10¢ at the Westchester toll station, 50¢ on the Hudson River Bridge and \$5.00 on the interchange control system, or a total of \$5.60. Typical fares for popular passenger car trips would be: Buffalo-Rochester, 75¢; Rochester-Syracuse, 95¢; Syracuse-Utica, 70¢; New York-Albany, \$2.10.

The truck charges have been based on demonstrable cost savings made possible by operation on the Thruway as compared with competing highways. Savings in fuel, maintenance, and tires can be evaluated on the basis of existing data. By considering the value of these three economies it was estimated that heavy trucks will save an average of at least 3.7¢ per mile in operating costs by using the Thruway. The toll rates for trucks were determined on the basis of this average saving in operating costs. In setting the fees for commercial vehicles, the value of time saved has not been included, although virtually all commercial users of the Thruway will save time and for many this will be reflected in their costs. Neither has any weight been given to increased utilization of equipment, longer truck life, or lower insurance rates. Opportunities also exist to increase business volume by virtue of improved service. All these advan-

tages will accrue to Thruway users without being reflected in the fees.

Under existing state law, all trucks with gross weights of over 18,000 pounds are required to pay a mileage tax for travel on New York State highways. The tax ranges from 0.6 cents to 2.4 cents a mile for various sizes of trucks, but trucks traveling on the Thruway are exempted from payment. This exemption is equivalent to a direct credit against the fees to be paid for use of the Thruway.

Light trucks with only four wheels are not covered in the foregoing discussion. Since these are similar in their characteristics to passenger cars, the same mileage toll will be charged. The mileage rate assumed for bus travel is $3\frac{1}{2}\phi$ per mile.

At the barrier stations the rates adopted for the various classifications of vehicles are generally in approximately the same ratio to each other as the mileage fees on the interchange control system. In the case of the Hudson River Bridge, however, the toll schedule of the Port of New York Authority's Hudson River crossings was matched; and at the Grand Island Bridges no new rates have been proposed, although the Authority may wish to make certain adjustments without changing the general level of tolls.

ESTIMATED REVENUES FROM THRUWAY USE FEES

PASSENGER CAR REVENUES:

Use fees from passenger cars were estimated under four principal groups:

- (a) Permit fees from New York State licensed cars
- (b) Single trip tolls from New York State cars
- (c) Single trip tolls from out-of-state cars
- (d) Barrier tolls.

Permit sales were estimated on the basic assumption that any New York State car owner who uses the Thruway enough to make it worthwhile to buy a permit would do so. The trip frequency and travel distance data made it possible to determine whether various groups of Thruway users would pay more or less than one and one quarter cents a mile by buying a permit. Those who would pay less than that by traveling on a permit were considered the most likely purchasers; whereas if a user's total travel at the established mileage rate would cost less than at the permit rate, he was considered principally as a single trip prospect. A special survey was also made to determine the proportion of out-of-state cars in the passenger car volume, as all of these users would pay straight mileage fees.

After considering all factors, and taking into account the effect of the fees on Thruway travel, estimates

were prepared showing that approximately 41,550,000 passenger car trips would have been made on the Thruway if it has been completely open in 1950. This figure includes some duplication. For purposes of estimating revenue traffic, a toll trip is considered as one passage through a toll collection point. The high proportion of toll trips to free trips is also influenced by the availability of the permit. Over 12,500,000 of the passenger car trips would have been made on permits, even though the estimated number of permit sales is slightly less than 100,000 as of 1950. At the \$20 annual rate, the average cost per ride for permit holders is estimated at fifteen cents.

The revenues estimated to be derived from passenger cars total \$10,670,000 on a 1950 basis. Of this amount approximately \$1,880,000 would come from permit sales and \$8,790,000 from cars traveling on single trip fees.

REVENUES FROM COMMERCIAL VEHICLES

The largest segment of Thruway revenues will come from heavy trucks. Under the recommended average rate of 3.7 cents per mile, heavy trucks will in most instances be able to make up their toll costs in operating economies. In general, therefore, it has been assumed that trucks previously considered diverted to the Thruway will be willing to pay the scheduled fees, since they will gain nothing by

by avoiding them. Larger trucks will further benefit by gaining exemption from the weight-distance tax.

On very short trips, however, some reluctance to paying fees may be encountered, and a discount factor was applied in this category. This had a considerable effect on the New England Thruway estimates.

Light trucks were considered to have a resistance to fees similar to those of passenger cars, and a discount of 45 per cent of the free trips was applied in this category.

With the aid of the survey data on truck trip distances, the amount of Thruway travel was determined and the resulting mileage fees calculated. Separate estimates were also prepared for the fees obtained at the various toll barrier stations.

After applying the adopted reduction factors, the volume of heavy trucks on the Thruway was estimated at 4,027,000 trips at the 1950 level. Light trucks were estimated at 1,659,000 paying trips, and buses at 40,000 trips for the year.

The use fees estimated for commercial vehicles, at the 1950 level, total \$10,120,000. The bulk of this amount or \$9,575,000 is from heavy trucks; light trucks contribute \$480,000 and bus trips yield \$65,000.

SUMMARY OF REVENUES - BASE YEAR

Total Thruway revenues from use fees, at the level of the year 1950, are summarized as follows:

SUMMARY OF ESTIMATED THRUWAY REVENUE FROM USER CHARGES - 1950 LEVEL

<u>Source of Revenue</u>		<u>Total Revenues</u>
Passenger Cars		
Annual Permits	\$1,880,000	
Trip Tolls	8,790,000	\$10,670,000
Commercial Vehicle Toll		
Light Trucks	\$ 480,000	
Heavy Trucks	9,575,000	
Buses	<u>65,000</u>	<u>10,120,000</u>
Total 1950 Vehicular Revenue		\$20,790,000

ESTIMATED FUTURE INCREASES IN THRUWAY TRAFFIC AND REVENUES

Future increases in traffic will be one of the most important influences affecting Thruway revenues. Forecasts for future years necessarily involve a considerable amount of reliance on judgment, but certain known factors have proved to be fairly reliable guides in the past and can be used as a basis for estimating.

Fundamentally, population growth is the starting point in the consideration of traffic growth. Since the motor vehicle became an integral part of American life, however, there has been a constant increase in the ratio of vehicles to population, except for temporary

setbacks during the depression and the last war. This increase in motor vehicle registrations, which continues to outstrip the growth of population by a large margin, is one of the principal reasons for greater traffic volumes.

Another measurable trend which has had its effect on traffic is the tendency toward increased utilization of the individual vehicle. This trend is noticeable from gasoline consumption figures, but its effect is actually less pronounced than is sometimes supposed. Nevertheless, improved highways, better cars and more leisure time afford an opportunity for driving more miles per year.

Consideration of all these factors, viewed in the light of past trends and probable future influences, make it possible to project the future general trend of motor vehicle travel within a given area on a reasonable basis. This trend of motor vehicle travel is applicable principally to general passenger car traffic, which makes up the bulk of vehicular movements. Travel by commercial vehicles, being a relatively small percentage of the total, is not properly represented by the over-all trend, but must be related to the specific trends of the trucking and bus industries.

Against a background of the anticipated general growth of motor vehicle travel, the specific increases

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of Thruway traffic and revenues have been estimated separately for the three principal categories of vehicles:

1. Passenger cars traveling on annual permits.
2. Passenger cars traveling on single trip fares.
3. Commercial vehicles.

PASSENGER CAR TRENDS

Whereas passenger car travel in general corresponds to the general motor vehicle index, as represented by total gasoline consumption, traffic trends on one particular road may vary widely from the average. Comparison of the traffic records of various main arteries on which tolls are charged, including several parkways in the New York area plus the Pennsylvania and Maine turnpikes, indicates that passenger car travel on such highways has increased anywhere from 40 per cent faster to three times as fast as the general trend of gasoline consumption.

The conclusion is that the great bulk of local travel remains relatively stable, whereas a very large share of the total increase in travel is concentrated on main highways. This would be especially true on new main highways which provide superior means of travel and have the opportunity to generate trips which would not have been made if the new route had not existed.

As a result of specific studies into developments of this type, based on actual records, it was concluded that passenger car traffic on the Thruway will grow at a considerably faster rate than the general trend of motor vehicle travel during the period under consideration. This statement applies both to passenger car trips made on annual Thruway permits and to those on single trip fares.

Revenues from passenger cars making single fare trips will increase in direct proportion to travel, since the fares will be based on mileage covered. In the case of cars using annual permits, increases in Thruway travel per car will have no effect on revenues. Permit revenues can therefore be expected to increase only in proportion to registrations.

The first full year of Thruway operation will be 1955, but in the first half of the year only the portion from Buffalo to Suffern will be operating. During the second half of 1955, the entire route from Buffalo to New York is expected to be in operation, except for three miles in southern Westchester County where Thruway traffic will temporarily use Central Park Avenue. The estimates presented in this report begin at July 1, 1955. It will be 1959 before all portions of the present Thruway program are operating for a complete year. In estimating the traffic that will use the Thruway, the

general trends of growth have been applied between the base year 1950 and the opening year for any section, but once a section is open the specific rates of growth developed for that Thruway section have been applied. This results in an estimated 1959 passenger car traffic volume 64 per cent greater than the estimate for the base year 1950. By 1975 a further increase of 33 per cent is expected. The anticipated increase in passenger car registrations, which is the basis for the estimated growth of annual permit sales, is 37 per cent between 1950 and 1959, and another 16 per cent from 1959 to 1975.

COMMERCIAL TRAFFIC TRENDS

The rise of the trucking industry has been the most important phenomenon of American transportation history of the last twenty-five years. From small beginnings, the truck carriers have grown to such a degree that they haul an important portion of the nation's freight tonnage, and in many fields they have become pre-eminent.

The rapid rise of the trucking industry can be measured in terms of ton-miles of intercity haulage, on which figures are available. These records show that truck ton-mileage increased at the average rate of 9 per cent a year from 1930 to 1950, and in the postwar years the increase has been 15 per cent a year.

Comparison of these general increases with turnpike truck travel shows that the turnpikes have had a markedly greater upsurge. Pennsylvania Turnpike trucking increased an average of 26 per cent a year from 1946 to 1950, and in the six years of operation on the Maine Turnpike, truck travel has increased 13 per cent a year.

In view of these remarkable increases, future trucking activity must be expected to rise substantially. For purposes of the Thruway estimates, fairly conservative percentages of increase have been adopted, summarized as follows:

<u>Period</u>	<u>Estimated Average Annual Increase In General Trucking</u>	<u>Estimated Average Annual Increase In Thruway Trucking</u>
1950-1955	10%	-
1955-1960	6	9%
1960-1965	5	5
1965-1970	4	4
1970-1975	3	3

Against past records of the trucking industry, the foregoing rates of increase appear moderate. Nevertheless, they do contemplate an increase of 60 per cent in general trucking activity between 1950 and 1955. The increases on the other portions of the Thruway are expected to be slightly lower than on the controlled portions, but the total heavy truck traffic on the Thruway is expected to double between 1950, the base year, and 1959, the first full year of complete operation. An

additional 74 per cent increase is expected between 1959 and 1975.

Light trucks account for a very minor portion of the total truck trips, and have been estimated to increase at the same rates as non-permit passenger car trips on the Thruway. Bus trips are virtually nominal in volume, and no increase has been added to the estimated 1955 volume of 50,000 trips, which is 25 per cent more than the 1950 estimate.

SUMMARY OF ANNUAL THRUWAY TRIPS AND REVENUES

By applying the estimated rates of increase for various types of traffic to the 1950 base year values, annual estimates of Thruway toll trips and revenues have been developed. For purposes of these estimates, a toll trip is considered to be one passage thru any toll collection point. The estimates are summarized by years in the accompanying tables.

(page A-34 follows)

SUMMARY OF ESTIMATED ANNUAL MOTOR VEHICLE TOLL TRIPS

Year	Passenger Car Trips		Light Truck Trips	Heavy Truck and Bus Trips	Total Trips
	Permit Trips	Non-Permit Trips			
1955*	8,883,000	10,985,000	770,000	1,942,000	22,580,000
1956	16,451,000	26,708,000	1,533,000	4,392,000	49,084,000
1957	17,174,000	41,178,000	2,240,000	6,842,000	67,434,000
1958	17,954,000	43,576,000	2,360,000	7,450,000	71,340,000
1959	18,656,000	49,525,000	2,605,000	8,224,000	79,010,000
1960	19,279,000	51,609,000	2,701,000	8,807,000	82,396,000
1961	19,682,000	53,186,000	2,778,000	9,189,000	84,835,000
1962	20,056,000	54,735,000	2,840,000	9,592,000	87,223,000
1963	20,430,000	56,261,000	2,903,000	10,008,000	89,602,000
1964	20,790,000	57,705,000	2,963,000	10,439,000	91,897,000
1965	21,173,000	59,072,000	3,021,000	10,875,000	94,141,000
1966	21,476,000	60,373,000	3,082,000	11,240,000	96,171,000
1967	21,799,000	61,531,000	3,137,000	11,617,000	98,084,000
1968	22,098,000	62,542,000	3,188,000	12,000,000	99,828,000
1969	22,379,000	63,407,000	3,225,000	12,383,000	101,394,000
1970	22,643,000	64,188,000	3,274,000	12,766,000	102,871,000
1971	22,908,000	64,886,000	3,310,000	13,070,000	104,174,000
1972	23,125,000	65,456,000	3,337,000	13,379,000	105,297,000
1973	23,345,000	66,032,000	3,368,000	13,693,000	106,438,000
1974	23,530,000	66,485,000	3,394,000	14,014,000	107,423,000
1975	23,700,000	66,950,000	3,425,000	14,333,000	108,408,000

* 6 months

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ESTIMATED ANNUAL REVENUES FROM TOLLS INCLUDING PERMIT FEES

Year	Passenger Car Revenues		Light Truck Revenues	Heavy Truck and Bus Revenues		Total Estimated Toll Revenues
	Permit Fees	Trip Tolls				
1955*	\$1,140,000	\$ 4,820,000	\$ 270,000	\$ 6,120,000	\$12,350,000	
1956	2,080,000	10,210,000	530,000	13,210,000	26,030,000	
1957	2,480,000	13,260,000	670,000	17,040,000	33,450,000	
1958	2,540,000	14,230,000	740,000	19,440,000	36,950,000	
1959	2,580,000	15,310,000	780,000	21,210,000	39,880,000	
1960	2,620,000	15,960,000	800,000	22,990,000	42,370,000	
1961	2,660,000	16,490,000	830,000	24,160,000	44,140,000	
1962	2,690,000	16,990,000	870,000	25,330,000	45,880,000	
1963	2,720,000	17,470,000	880,000	26,570,000	47,640,000	
1964	2,750,000	17,950,000	890,000	27,870,000	49,450,000	
1965	2,780,000	18,390,000	910,000	29,220,000	51,300,000	
1966	2,800,000	18,830,000	920,000	30,350,000	52,900,000	
1967	2,830,000	19,200,000	940,000	31,550,000	54,520,000	
1968	2,860,000	19,520,000	960,000	32,760,000	56,100,000	
1969	2,880,000	19,770,000	980,000	34,020,000	57,650,000	
1970	2,900,000	20,010,000	1,000,000	35,300,000	59,210,000	
1971	2,920,000	20,220,000	1,010,000	36,310,000	60,460,000	
1972	2,940,000	20,400,000	1,020,000	37,350,000	61,710,000	
1973	2,960,000	20,570,000	1,020,000	38,420,000	62,970,000	
1974	2,970,000	20,710,000	1,040,000	39,540,000	64,260,000	
1975	2,980,000	20,840,000	1,040,000	40,660,000	65,520,000	

* 6 months

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THRUWAY SECTION VOLUMES

Traffic volumes on the Thruway are expected to vary considerably from section to section. The heaviest loads are anticipated between New York City and the Catskills, in the Buffalo area, and on the New England Section.

Average daily traffic volumes estimated for the year 1960 run as high as 34,000 on the Hudson River Bridge; and the entire Hudson section of the Thruway, traversing Westchester and Rockland counties, averages a density of 18,000 vehicles a day throughout the year.

In the vicinity of Buffalo, average densities up to 30,000 a day are expected on the Niagara Section by 1960. The Ontario Section of the main Thruway is expected to reach average volumes up to 28,000 a day on the portion just east of Buffalo.

Traffic on the New England Thruway will be heavy, averaging some 35,000 vehicles a day in the New Rochelle area within five years after the assumed opening date.

Peak days are expected to reach traffic volumes approximating 85,000 on the Hudson River Bridge by 1960, 68,000 on the lower Catskill Section paralleling Route N.Y. 17, and 50,000 on the New England Thruway. The Buffalo area should also see some peak days in excess of 40,000 vehicles.

On Thruway sections of ordinary traffic density, average 1960 volumes of about 9,000 vehicles a day will be common in rural areas, while suburban sections are

expected to average in the vicinity of 17,000 daily trips.

CONCESSION REVENUES

In addition to fees from traffic the Thruway project will realize additional revenues from concessions, including the sale of gasoline, oil, motor vehicle supplies and food. The great preponderance of concession revenues at existing parkway and turnpike stations is derived from the sale of gasoline. Revenues are generally based on a royalty for each gallon of gasoline sold.

Investigation shows that there is a relationship between the amount of gasoline consumed on a parkway or turnpike and the amount sold at the stations located on the route. The gasoline to be consumed on the Thruway was estimated on the basis of vehicle-miles of travel by the different types of vehicles, and each type of vehicle was assumed to buy a certain percentage of its consumption at Thruway service stations.

On the basis of the estimated sales of gasoline on the Thruway, the probable yield from this source to the Authority was determined on the basis of 6.9 cents per gallon, which compares favorably with average bids received for 27 stations in the New York to Buffalo sections of slightly over 7 cents per gallon. Revenues from all other concessions were estimated at 35 per cent of gasoline royalties.

Total concession revenues were thereby estimated at \$1,120,000 for the second half of 1955; 3,390,000 for 1959, the first full year in which the complete Thruway program will be in operation; and 4,970,000 for 1975.

OPERATION AND MAINTENANCE EXPENSES

The expense connected with operating and maintaining the Thruway has been considered under four main categories:

- Operation of toll collection system
- Maintenance of highway and structures
- Police and communications
- Administration and general.

The following estimates prepared by the Authority have been reviewed by us and appear to be reasonable expectations in the light of present cost levels.

OPERATION OF TOLL COLLECTION SYSTEM

The personnel required to operate the toll collection stations was estimated on the basis of the anticipated volume of traffic expected to be handled at each point. Five typical interchange station set-ups were developed and their operating costs determined. These station types ranged from a one-man operation to a maximum of seven men on duty at one time. The toll barrier stations, including the Hudson River Bridge, were each studied separately.

For each station type, the peak hourly and daily

traffic capacities were determined. These capacities were compared with the anticipated traffic volumes, and each of the 42 interchange stations were thereby designated as one of the five types. The personnel cost for each type of interchange station and for each barrier station was determined based on current salary levels. The estimated toll collection expense, including personnel cost, allowances for money pick-up service, cost of tickets, and distribution of the annual permits, for all interchange and barrier stations, totals \$3,030,000 in 1959, the first full year of complete operation of the present Thruway program.

In future years the toll collection costs will increase, being influenced both by traffic volumes and by mandatory salary increments of employees. In order to appraise this increase, a reanalysis of all stations was made for the years 1965 and 1975, taking into account the increased traffic volumes and the higher unit costs of the various types of stations. It was found that an annual toll collection expense of approximately \$3,670,000 may be expected by 1965 and \$3,970,000 by 1975. Intermediate years were estimated to vary generally in proportion to traffic increases.

MAINTENANCE OF HIGHWAY AND STRUCTURES

Highway maintenance covers the care of the road-

way and right-of-way, including interchanges, grade separation bridges and other small structures. Snow and ice control is an important item, and a reserve for equipment replacement, roadway resurfacing and repairs is included in the annual allowance.

An analysis of the personnel, material, and equipment needed to maintain the Thruway was made and the costs determined. The resulting maintenance cost on a per mile basis, ranging from about \$5,500 per mile in 1956 to \$7,800 in 1975, appears reasonable in light of the experience of the New York State Department of Public Works and the United States Bureau of Public Roads.

The Thruway will include several major bridges whose maintenance costs must be given special consideration. The largest structure will be the Hudson River Bridge at Tarrytown, and a second crossing of the Hudson will be located on the Berkshire Section. The two existing Grand Island Bridges on the Niagara Section have been incorporated into the Thruway system, and at least two other structures will be of major proportions.

Total maintenance costs for the Thruway system, including maintenance of the highway and major bridge structures, are estimated at approximately \$3,850,000 for 1959. By the year 1975, these expenses are expected to rise to about \$4,770,000.

POLICE AND COMMUNICATIONS

The New York State Police will assign a special detail to enforce traffic and safety rules and regulations of the Thruway Authority. The costs of this service will be borne by the Authority. The state police have submitted a proposal for policing the first portion of the highway to be opened. Based on this proposal, estimates were prepared for the costs of policing all parts of the Thruway.

A complete radio telephone communications system will be used by the Authority in order to assure efficient and safe operation of the modern, high-speed highway. Estimates of the cost of this system for the first portion of the Thruway to be opened have been made by the New York Telephone Company, and the figures have been used as a basis for estimating the total cost of the communications system.

In 1959 it is expected that the costs of police and communications will total \$1,010,000, and a gradual increase to \$1,090,000 by 1975 is expected.

ADMINISTRATIVE AND GENERAL EXPENSES

Administrative and general expenses include the executive and administrative staffs of the Authority, engineering, accounting, public relations, legal advice, supervision of concessions, office expenses, travel, and

the central office tabulating and accounting necessary for the operation of the toll collection system.

These expenses will be influenced to some extent by the scale of operations on the Thruway, but they are not expected to rise in proportion to revenues.

During the first year of complete operation of the present Thruway program, assumed to be 1959, an allowance of \$1,270,000 has been estimated, and the corresponding expenses are expected to rise to about \$1,430,000 by 1975.

SUMMARY OF EXPENSES

Total expenses of operation and maintenance at the 1959 level are estimated at about \$9,160,000, and future increases bring the figure to approximately \$11,260,000 in 1975.

A summary of estimated expenses for the years 1959 and 1975 is shown below:

<u>Expense Item</u>	<u>1959(1)</u>	<u>1975</u>
Toll Collection System	\$3,030,000	\$ 3,970,000
Maintenance of Highways and Structures	3,850,000	4,770,000
Police and Communications	1,010,000	1,090,000
Administration and General	<u>1,270,000</u>	<u>1,430,000</u>
Total expenses	\$9,160,000	\$11,260,000

(1) First full year of operation of complete Thruway under present program,

SUMMARY OF NET REVENUES

A summary of all the estimates of revenue and expenses for the years from 1955 thru 1975 is shown in the accompany table, which also gives the estimated net revenues available to pay interest and amortization on the indebtedness of the Authority incurred for the construction of the Thruway. Gross revenues are expected to rise from about \$13,470,000 in the last six months of the first year to \$43,270,000 in 1959, the first year of complete Thruway operation. By 1975 these gross revenues are expected to increase to \$70,490,000 annually, an increase of 63 per cent over the 1959 figure. Since expenses do not increase in proportion, the estimated net revenues rise at an even greater rate than gross revenues, increasing from \$10,300,000 in the last six months of 1955 to approximately \$34,110,000 by 1959 and reaching \$59,230,000 by 1975.

(page A-44 follows)

ESTIMATED REVENUES AND EXPENSES
OF THE NEW YORK STATE THRUWAY
1955 - 1957

Year	Toll Revenues	Concession Revenues	Total Revenues	Operating and Maintenance Expenses	Estimated Net Revenues
1955*	\$12,350,000	\$1,120,000	\$13,470,000	\$ 3,170,000	\$10,300,000
1956	26,030,000	2,210,000	28,240,000	5,300,000	21,940,000
1957	33,450,000	2,900,000	36,350,000	8,050,000	28,300,000
1958	36,950,000	3,130,000	40,080,000	8,750,000	31,320,000
1959	39,880,000	3,390,000	43,270,000	9,160,000	34,110,000
1960	42,370,000	3,550,000	45,920,000	9,360,000	36,560,000
1961	44,140,000	3,690,000	47,830,000	9,600,000	38,230,000
1962	45,880,000	3,800,000	49,680,000	9,790,000	39,890,000
1963	47,540,000	3,900,000	51,540,000	9,980,000	41,560,000
1964	49,460,000	4,020,000	53,480,000	10,160,000	43,320,000
1965	51,300,000	4,130,000	55,430,000	10,310,000	45,120,000
1966	52,900,000	4,230,000	57,130,000	10,410,000	46,720,000
1967	54,520,000	4,310,000	58,830,000	10,510,000	48,320,000
1968	56,100,000	4,420,000	60,520,000	10,610,000	49,910,000
1969	57,650,000	4,520,000	62,170,000	10,710,000	51,460,000
1970	59,210,000	4,620,000	63,830,000	10,800,000	53,030,000
1971	60,460,000	4,700,000	65,160,000	10,900,000	54,260,000
1972	61,710,000	4,770,000	66,480,000	10,990,000	55,490,000
1973	62,970,000	4,840,000	67,810,000	11,090,000	56,720,000
1974	64,260,000	4,910,000	69,170,000	11,180,000	57,990,000
1975	65,520,000	4,970,000	70,490,000	11,260,000	59,230,000

* 6 months

AUTHORITY'S CONSTRUCTION EXPENDITURES

The Thruway Authority staff, with the assistance of the State Department of Public Works, has prepared estimates of construction expenditures required for the Thruway. These figures reflect the costs of highway construction, right-of-way, engineering, buildings, and equipment required for the project. They also include an allowance for Authority administration of construction activities.

As consulting engineers for the Authority, we have reviewed the cost estimates and supporting data in detail and have made field inspections of the route. We are of the opinion that the figures presented adequately reflect the construction expenditures of the Authority required for the program contemplated, with a reasonable margin for contingencies at current cost levels.

The Authority's expenditures for the Thruway are estimated at a total of \$823,605,000, of which \$772,638,000 is for highway construction, including structures, right-of-way and engineering; and \$50,967,000 is for non-highway costs including service stations, restaurants, toll collection facilities, administration, maintenance and administration buildings and maintenance and operating equipment. Some \$475,918,000 of the Authority's total estimated expenditures had been committed for the work under way, property and other determined

items at April 30, 1954.

The balance of the Authority's construction expenditures to complete its present program is for work yet to be undertaken and the cost figures are therefore estimated on the basis of available information. The estimated amount required in this category is \$347,687,000, or 42 per cent of the total. Within this amount provision has been made for certain facilities required on the New York-Buffalo Section which have not yet been contracted for, including the three miles of the Thruway immediately north of New York City, (for which bids have been received), fencing, additional right-of-way costs, the New Jersey connection and miscellaneous improvements which may become necessary after operations have commenced. The cost of the New England Section has been estimated on the basis of nearly completed detailed plans for about half the work and preliminary plans on the balance. For the Niagara Section detailed engineering plans covering several miles of the route and preliminary plans for the remainder have been prepared. Estimates for the Erie Section were based on complete route studies plus detailed planning covering the most difficult portions. For the Berkshire Section and the additional South Grand Island Bridge, only preliminary studies have been made.

Against the Authority's estimated construction

expenditures, totaling \$823,605,000, there will be applicable all net revenues earned from operations to the end of 1957. These net revenues are estimated at approximately \$70,564,000, leaving a balance of approximately \$753,041,000 as the amount required by the Authority for its construction expenditures, exclusive of interest during construction and financing and related costs which are to be deducted from the bond proceeds.

A summary of the Authority's construction expenditures for the Thruway is given in the accompanying tabulation. This tabulation differs from that contained in the Authority's construction budget as set forth in its Official Statement in that the amounts are herein given on the basis of commitments instead of cash expenditures.

Relating the over-all requirements for highway expenditures to Thruway mileage, the average cost of the New York-Buffalo Section is \$1,340,000 per mile and the average cost of the entire Thruway is approximately \$1,620,000 per mile, inclusive of all structures. The average construction cost per mile of each Section is shown in the following tabulation:

Sections	Mileage	Average Cost Per Mile
New York-Buffalo (1).....	432	\$1,340,000
Erie Section	70	1,220,000
Niagara Section (2).....	21	4,310,000
New England Section	15	6,890,000
Berkshire Section (3)....	24	2,210,000

- (1) Includes approximately \$60,000,000 for three-mile Hudson River Bridge.
- (2) Includes approximately \$6,200,000 for additional South Grand Island Bridge.
- (3) Includes approximately \$20,000,000 for Hudson River Crossing.

The highway construction costs per mile of the Thruway compare favorably with other recent and current turnpike projects, even though about \$86,000,000 for major bridges is included therein as shown above. The costs of the Niagara and New England Sections reflect the fact that they run almost entirely through densely populated areas. Taking these conditions into account the Thruway is being built for reasonable cost at current price levels.

(page A-49 follows)

SUMMARY OF AUTHORITY'S CONSTRUCTION EXPENDITURES

A-49

	Work completed or committed at April 30, 1954	Estimated Work to be Committed	Estimated Total
Highway construction by Authority			
New York - Buffalo Section . .	\$459,329,000	\$24,966,000	\$484,295,000
Erie Section	231,000	85,231,000	85,462,000
Niagara Section	4,121,000	68,053,000	72,174,000
New England Section	3,448,000	68,127,000	71,575,000
Berkshire Section	--	52,932,000	52,932,000
Additional South Grand Island Bridge	--	6,200,000	6,200,000
Total highway construction by Authority (a)	\$467,129,000	\$305,509,000	\$772,638,000
Service stations, restaurants, toll collection facilities and other buildings and equipment	7,058,000	40,381,000	47,439,000
Administration	1,731,000	1,797,000	3,528,000
Total construction expenditures by Authority	\$475,918,000	\$347,687,000	\$823,605,000 (b)
Deduct: Estimated net revenues during construction period (to December 31, 1957)	1,595,000	68,969,000	70,564,000
Balance of Authority's construction expenditures - to be financed .	\$474,323,000	\$278,718,000	\$753,041,000

(continued)

NOTES:

(a) Total highway construction by Authority includes amounts for real property acquisition and engineering, as follows:

	Work completed or committed at <u>April 30, 1954</u>	Estimated work to be committed	Estimated <u>Total</u>
Real property acquisition	\$37,363,000	\$38,289,000	\$75,652,000
Engineering	20,224,000	32,018,000	52,242,000

(b) The Authority's total construction expenditures, estimated in the amount of \$823,605,000 as shown above, exclude (1) Federal aid funds for certain toll-free portions of the Thruway, expected to be available in the amount of approximately \$20,024,000 on the New York - Buffalo section, \$10,752,000 on the Niagara Section and \$27,224,000 on the New England Section, totaling \$58,000,000, of which \$3,615,000 has been paid and approximately \$11,785,000 additional has been committed for to date by the United States Bureau of Public Roads, and (2) construction expenditures for the Thruway by the State of New York in the amount of \$81,134,000, to be repaid as stated in the Authority's Official Statement.

CONCLUSIONS

In the development of the revenue and expense estimates many intermediate steps were necessary and numerous individual elements were evaluated. In order to acquaint the reader with the processes by which the estimates were derived, rather full explanations of various components entering into the final totals have been included in this report. It cannot be expected, however, that each individual estimate will be borne out by future events; and all breakdowns and separate elements should be regarded only as explanations of the methods employed in reaching the final totals.

Substantial changes in the opening dates assumed for the various Sections and parts of Sections might materially affect the results in individual years.

The general assumption of this report is that favorable economic conditions will continue to prevail. On the other hand, the estimates are believed to be sufficiently conservative so that minor fluctuations in the economic cycle or other minor deviations from the assumptions adopted will not affect the basic soundness of the Thruway's financial position.

Inasmuch as the estimates of revenue were developed on a conservative basis and the expense allowances are considered ample, so far as may be foreseen, it is felt that the estimates of net revenue will be

realized or exceeded. Furthermore, although the estimates of future increases in traffic and revenues have been carried only to the year 1975, it is reasonable to expect that additional increases will occur beyond that date. This provides a further safety factor in the revenue estimates and is another indication that the picture here presented is a conservative one.

On the basis of the estimates of revenues, expenses and construction expenditures of the Authority contained in this report, it is concluded that the project will be self-liquidating and will be completed without any direct cost to the taxpayers of New York State.

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